

Assessment of the agricultural sector in Tanzania

**USAID Tanzania
Economic growth office**

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**Dieter Fischer
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ABBREVIATIONS

AGOA	African Growth Opportunity Act
ABSP	Agricultural Biotechnology Support Program
ASAC	Agricultural Sector Advisory Committee
ASARECA	Association for Strengthening Agricultural Research in East and Central Africa
ASDP	Agricultural Sector Development Program
ASDS	Agricultural Sector Development Strategy
A-SNAPP	Agribusiness in Sustainable African Plant Products
BIO-EARN	East Africa Research Network for Biotechnology
CGIAR	Consultative Group on International Agricultural Research
CIA	Central Intelligence Agency
CLUSA	Cooperative League of U.S.A
COSTECH	Tanzania Commission for Science and Technology
CRDB	Cooperative and Rural Development Bank
CRSP	Collaborative Research Support Program
DAI	Development Alternatives International
DED	District Executive Director
DHS	Demographic and Health Survey
DRD	Department of Research and Development
FAO	Food and Agriculture Organization
FASWOG	Food and Agriculture Sector Working Group
FEWS-NET	Famine Early Warning System Network
GDP	Gross Domestic Product
GMO	Genetically Modified Organism
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IHEA	Initiative to End Hunger in Africa
ILO	International Labor Organization
MAFS	Ministry of Agriculture and Food Security
MCM	Ministry of Cooperatives and Marketing
MRALG	Ministry of Regional and Local Government
MWLD	Ministry of Water and Livestock Development
NARS	National Agricultural Research System
NIVS	National Input Voucher Scheme
NSCA	National Sample Census of Agriculture
PRS	Poverty Reduction Strategy
RATES	Regional Agricultural Trade Development Program
SACCOs	Savings and Credit Cooperatives
STIs	Sexually Transmitted Infections
SUA	Sokoine University of Agriculture
TAC AIDS	Tanzania Commission on AIDS
TARP	Tanzania Agricultural Research Program
TRADE	Trade for African Development and Enterprise
VAT	Value Added Tax

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USAID Tanzania

Agricultural Sector Assessment

USAID Tanzania is developing a ten year program to promote economic growth in the agricultural sector. The broad outlines of this program are described in the results framework shown in Annex 1. This assessment of the agricultural sector is designed to assist in selecting the activities that will achieve the intermediate results and strategic objective.

1. Growth, poverty and agriculture

1.1 The agricultural component of GDP and projections for the future

Agriculture is the base of the Tanzanian economy, accounting for 45% of Tanzania's Gross Domestic Product (GDP), with industry providing 16% and services 39%.¹ This division has remained fairly constant since 1995.

The overall GDP has grown at an average rate of 5% since 1995. In 2002, the rate was estimated at 6.2% by the Bank of Tanzania, 5.8% by the World Bank and 5.4% by the Economist Intelligence group. These and other institutions are predicting continued growth ranging from under 5% to 6%. This can be compared to a population growth rate of 2.57%. Generally, growth is expected to accelerate slightly in the next two years, although there is disagreement on the actual rate.

- According to the World Bank, growth in 2003 is projected to be 6%, with agriculture, tourism and mining as the driving forces.
- The Bank of Tanzania attributes their growth estimate of 6.2% in 2002 to mining (15% growth), manufacturing (8% growth) and agriculture (5% growth). This positive performance is credited to structural and macro-economic reforms, and is expected to continue in 2003.²
- According to the Economist Intelligence Group, growth in 2004 is expected to increase slightly from their 2003 figure of 5.4% to 5.5%, driven by agriculture, mining and infrastructure development.
- Standard Bank is predicting continued growth of the overall economy of 5.2% in 2003, with growth accelerating to 5.4% in 2004, due to further economic reforms ahead of the Presidential elections in 2005. This growth is expected to come from agriculture and mining.³

¹ www.worldbank.org

² www.bot.go.tz

³ Standard Bank, Economic research unit

- The CIA World Fact Book estimates growth at 5.2% in 2002 and forecasts continued growth at 5% in 2003, due to continued donor support and solid macro-economic policies.
- According to the First National Bank of South Africa, growth in agriculture is not expected to exceed 5% per year over the next two years, due to poor global commodity prices, weak marketing infrastructure, lack of credit and limited access to inputs.⁴

One factor which has a large effect on Tanzania's GDP is the size of the maize crop, because it accounts for 31% of the agricultural GDP and 14% of total GDP. The main factor affecting maize production is the weather. For the '03/'04 rainy season, the Famine Early Warning System (FEWS-NET) is predicting normal to below normal rainfall in the middle and south of the country and normal to above normal rainfall in the north and west.⁵ The relatively poor harvest in 2003 has led to higher maize prices in many areas. A poor harvest in Kenya as well has attracted Tanzanian maize, despite a ban on exports. These factors should stimulate increased planting, leading to a favorable season – assuming rainfall is not too much below normal. A larger maize crop should, in turn, support relatively strong GDP growth.

The following chart shows the contribution of various crops to the GDP over the past five years.⁶ The columns do not add to 100% because some of the minor food crops have been left off. A more extensive table showing GDP figures for a broader range of crops over 10 years is shown in Annex 2.

	1998	1999	2000	2001	2002
Food crops					
Maize	29.0%	28.9%	27.5%	31.8%	31.1%
Paddy rice	10.9%	11.4%	12.0%	12.3%	12.5%
Bananas	5.6%	5.5%	5.4%	8.0%	8.0%
Beans	7.6%	7.4%	7.1%	6.9%	6.9%
Millet/Sorghum	6.2%	6.3%	6.0%	5.3%	5.4%
Cassava	6.2%	6.3%	6.3%	5.4%	5.2%
Vegetables	4.7%	4.4%	4.7%	4.1%	4.0%
Sweet potatoes	2.1%	2.1%	2.0%	3.0%	3.1%
Tomatoes	2.4%	2.2%	2.4%	3.0%	3.0%
Fruits	3.1%	2.9%	2.8%	2.8%	2.8%
Groundnuts	3.6%	3.3%	3.7%	2.8%	2.8%
Cash crops					
Tobacco	1.6%	2.2%	2.2%	1.8%	2.1%
Cotton	1.6%	1.9%	1.8%	1.8%	1.8%
Cashew nuts	2.2%	2.5%	2.5%	2.0%	1.5%
Coffee	1.1%	1.1%	1.5%	1.2%	1.2%
Tea	0.8%	0.8%	0.8%	0.5%	0.5%

⁴ First National Bank, Emerging markets unit

⁵ www.fews.net

⁶ National Bureau of Statistics, National Accounts

During the late 1980s, cash crop production expanded just 1.8% per year, due to poor performance by Government cooperatives and parastatals. In the 1990s, with liberalization, the growth rate for export crops jumped to 7.7% per year.⁷ However, from the table above, it is clear why this positive trend has not had much effect on the overall agricultural GDP. Changes in policies related to maize and favorable or adverse weather conditions would have a much greater effect because of the importance of maize in the economy.

It should be noted that this data, which is drawn from the national accounts that are kept by the National Bureau of Statistics, may be significantly revised in the near future. DFID has an on-going program to support the revision of the national accounts based on historical data from other sources. Discrepancies have been discovered in a variety of crops, including maize.

1.2 *Agriculture and the labor force*

Last year, the National Bureau of Statistics published two surveys entitled the “Integrated Labour Force Study” and the “Household Budget Survey”. These extensive studies contain data on many aspects of the labor force and household economy. According to Labor Force study, 84% of the currently employed women and 80% of the men work in agriculture, forestry or fisheries.

Of the 13.6 million Tanzanians who are primarily employed in agriculture, 91% are growing crops, 5% are raising livestock, 0.8% are fishing and 3% are involved in post-harvest activities like crop marketing, grain milling, food processing and food retailing. Counting children as well as adults, 30 million Tanzanians (or 5.3 million households)⁸ are primarily dependent on agriculture, forestry and fisheries for their livelihoods.

In rural areas, the percentage of households engaged in agriculture reaches 98%. In urban areas outside of Dar es Salaam, 39% still consider agriculture to be their primary occupation. Even in Dar es Salaam, this figure is 15% of households, mostly comprising urban gardeners.

Rural incomes, which are predominately earned through agriculture, are much lower than urban incomes. The table below shows mean monthly household income in Shillings for the richest and poorest of the 20 regions.

	Dar	Mtwara	Iringa	Arusha	Tanga	Kigoma	Singida	Rukwa
Rural Income		20,795	17,917	17,902	10,494	9,356	8,621	7,019
Urban income	40,767	34,643	37,072	33,645	32,473	31,480	21,978	18,436

⁷ Tanzanian Agriculture since 1985, IFPRI

⁸ Household Budget Survey, National Bureau of Statistics, 2002

Surprisingly, Mtwara has the highest rural income of any region. This may be due to the concentration of cashew farmers in this region and the recent positive results in this sector. It is also thought that a substantial portion of the Mozambican cashew crop passes into Mtwara informally to avoid export taxes. Iringa and Arusha are generally thought of as the high potential regions, due to a wide mix of higher value cash crops like coffee. Drier areas, like Singida and Rukwa, which rely on lower value cash crops like cotton, have the lowest incomes.

In terms of land holdings, the nearly all farmers cultivate less than 5 hectares. There are a small number of large land holders, including the Government of Tanzania. Many of the Government owned farms are shifting to private ownership or joint ventures. These large farms account for about 16% of the cultivated land. The table below summarizes the division of cultivated land.⁹

	Large-scale privately held 1,000	Large-scale parastatal 900	Medium 1,590,000	Smallest 3,710,000
Farms				
Average land holding	1,000 hectares	1,000 hectares	1 to 5 hectares	0.4 to 1 hectare
Farming system	Tractors and other mechanized equipment. Many parastatal farms are inactive.		Typically use hoe or animal traction and produce crops for sale	Use hand hoes and are at, or close to, subsistence level

The 13.6 million people who are employed in agriculture earn their income from the production and sale of domestic, regional and export crops. The following table attempts to account by these farmers (and working family members) by crop type. Because the cash crops are geographically isolated, there would be relatively few farmers producing two cash crops, reducing problems with double counting.

Using demographic data from the Labour and Household surveys, it can be calculated that for every household with an average of 5.1 members, 2.7 members are 14 or older, which is the definition of working age. In fact, many children under 14 are also employed in cash crop production, to the detriment of their education.

Sector or enterprise	Number of people employed
Coffee farmers	400,000 X 2.7 = 1.08 million
Cotton farmers	400,000 X 2.7 = 1.08 million
Cashew nut farmers	250,000 X 2.7 = 675,000
Tobacco out-growers	126,000 X 2.7 = 340,200
Sugar cane out-growers	9,500 X 2.7 = 25,650
Tea out-growers	5,000 X 2.7 = 13,500
Spice producers	5,000 X 2.7 = 13,500
Paprika out-growers	700 X 2.7 = 1,890

⁹ The End of Small-holder Farming?, University of Dar es Salaam, 2000

Sector or enterprise	Number of people employed
Total people producing export crops (most of these are male-headed households, with larger land holdings)	3.23 million
Total people producing domestic or regional crops (Estimated by deducting cash crop producers from total rural employees. Most female-headed households and smaller land holders are found in this group)	10.36 million
Tobacco estate employees (both men and women)	14,000
Cut flower employees (both men and women)	3,000
Tea estate employees (both men and women)	45,000
Ministry of Agriculture employees (from Ministry budget, both men and women)	6,000
Employees of agribusinesses (predominantly men, estimated from Annex 4)	37,400
Total formal sector employees	105,400
Total people employed by agriculture	13.7 million

Although there is some uncertainty in these numbers, it is clear that 70 to 75% of Tanzanian farmers rely on maize and other “domestic” crops for their sustenance and cash income. This ratio is similar to the one in the previous table showing the division between small and medium-scale farmers, and in fact most medium-scale farmers are the ones producing cash crops. This is because an average family needs 0.8 to 1 hectare to produce enough food to feed themselves. If there is land, and more importantly labor (human or animal), available, a farmer can add some cash crops. Some farmers do produce mostly cash crops and buy food with the resulting income, but these are a minority.

Approximately 78% of rural households are male headed and 22% female headed. Since 1992, the number of female headed households has increased from 17% to 22%. Male-headed households are more likely to farm more than one hectare (30% of male heads and 17% of female heads). Female headed households are more likely to farm the smallest parcels of less than 0.3 hectares (34% male heads and 43% female heads).

Within the male-headed households, there is a significant imbalance in the division of labor. Time use studies consistently show that women spend more hours per day than men on agricultural activities. For example, women are responsible for almost all activities related to dairy husbandry (feeding, milking, milk processing and marketing). In crop production, both men and women participate fairly equally in site clearance, land preparation, sowing and planting, but women carry out most of the weeding, harvesting, transportation, threshing, processing and storage activities. Women are also responsible for food preparation, fetching water and gathering firewood.¹⁰ As might be expected,

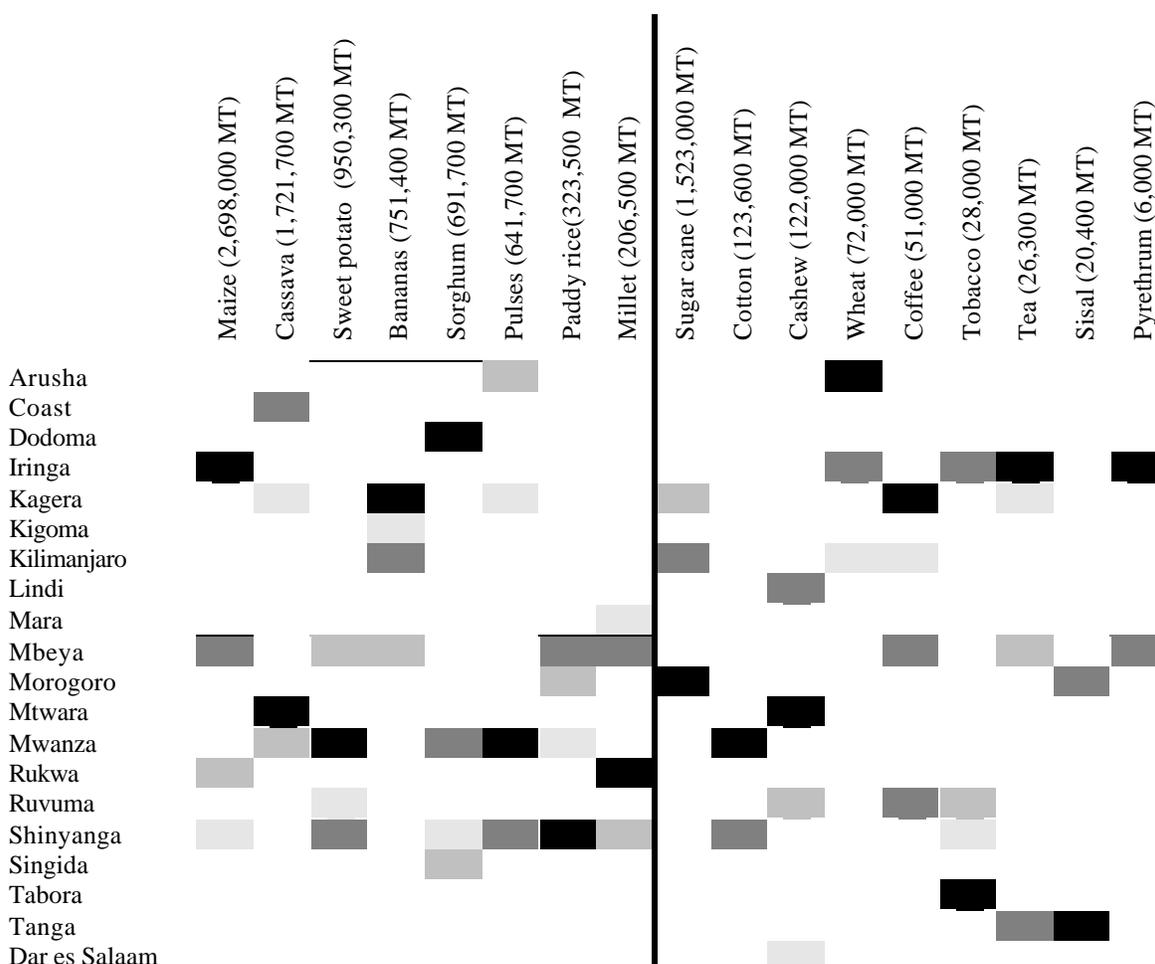
¹⁰ Food and Agriculture Organization, Sustainable Development Department

this imbalance carries over to education. The percentage of rural women with no education ranges from 59% in Lindi Region to 16% in Kilimanjaro Region, whereas the range for men with no schooling in the same regions is 38% to 8%.¹¹

The age of the rural population is skewed toward children and youth, with 46% under the age of 14. Another 25% of the rural population falls between the ages of 15 and 29 years. The ILO and other labor organizations have noted serious problems with child labor in Tanzania, especially on the tea and sisal estates.

1.3 Historical profiles for domestic food and cash crops

The chart below shows the major production areas for the main food and cash crops. For each crop, the most significant regions are shaded, with the level of shading indicating level. Those that are shaded black had the highest production in 2001, with decreasing levels of shading indicating less production that year. It should be noted that for staple commodities like maize and beans, there is significant production beyond the top three regions. The total production for 2001 is shown across the tops of the columns.



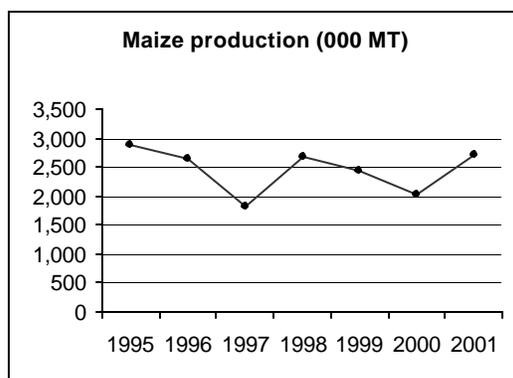
¹¹ National Bureau of Statistics, Household Budget Survey

This data, which comes from the Ministry of Marketing and Cooperatives and the Ministry of Agriculture and Food Security, is generally regarded to be more accurate than the national accounts. The complete data table, showing production of each crop for the past seven seasons is presented in Annex 3. In the following sections, more information is provided on the five most important food and cash crops.

Maize

Between 1985 and 2000, maize production grew at an average rate of 2.4%, which was slightly below the population growth rate.¹² During the '00/'01 season, there was adequate rain, the Government lifted a ban on exporting maize and there was high food demand in neighboring countries. Due to this combination of favorable factors, maize production rose by 22% in 2001.¹³

The harvest in 2003 was down about 10%, due to low and erratic rainfall. This reduction would have been much greater if the cultivated land area had not increased by 69%.¹⁴ The export ban has since been re-imposed (except for Rukwa Region), due to low 2003 harvest in most areas. This has led to increased smuggling of maize across Tanzania's northern border.



In addition to population growth, the other factor driving increased maize production is the increasing demand for maize as an ingredient in livestock feed. As the urban middle class grows, demand for livestock and poultry products is also growing. Another trend, which has been underway for the last decade, has been a shift from custom milling for one's own grain, purchase of pre-milled flour. This is more prevalent in urban areas, but the trend is also occurring in smaller

towns. This has increased the number of large mills, at the expense of small "posho" mills.¹⁵

Over the past fifteen years, maize yields have averaged 1.4 tons per hectare. Interestingly, in 1992 when 48,000 tons of fertilizer were distributed (at highly subsidized prices), the average yield was 1.17 tons per hectare. In 2001, when fertilizer use had dropped to 22,500 tons due to a removal of subsidies, maize yields were 1.7 tons per hectare. It seems that weather has a greater impact on maize yields than fertilizer use, at least as the subsidized fertilizer was being used by small-scale farmers in the 1990s.¹⁶

¹² Agriculture in Tanzania since 1986, IFPRI

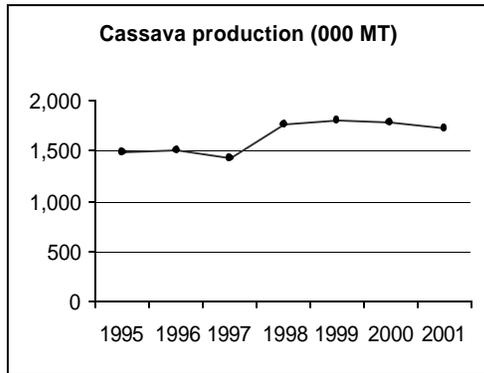
¹³ Tanzania National Bureau of Statistics

¹⁴ Famine Early Warning System Network (FEWS-NET), May 2003

¹⁵ Maize subsector study, Technoserve 1999

¹⁶ Basic Data Agricultural Sector 1994/95 to 2000/01, Ministry of Agriculture and Food Security

Yields vary widely across the country. In the 2000/2001 season, yields ranged from a high of 2.6 tons per hectare in Iringa Region, down to 600 kg per hectare in the Coast Region (where Dar es Salaam is located).



Cassava

Over the past seven years, cassava production has closely tracked population growth, increasing just 0.1% more slowly than the population. However, growth has not been even, with a big increase during the '97/'98 season and a slow tapering off since then. More than 90% of the crop is dried after harvest and then chipped and pounded into powder.

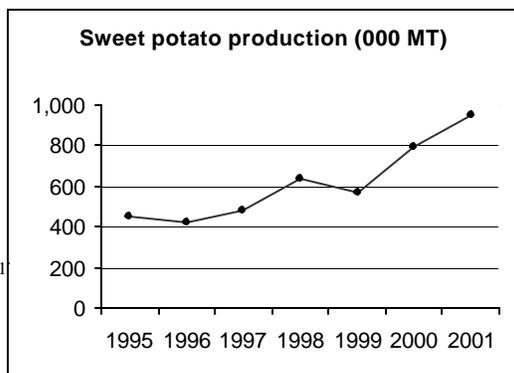
Another important product from the cassava plant is its leaves. These are pounded and then boiled as a green vegetable.

In the past, there were a few large-scale cassava plantations that were used to produce starch for industrial and animal feed use, but these businesses have collapsed. Today, all cassava is produced by small-scale farmers. Simple cassava processing equipment, that are widespread in Nigeria and Ghana, such as motorized chippers, are practically unknown in Tanzania

Cassava is an important food crop in semi-arid regions and plays a key role in food security since it can produce a harvest, even when cereal crops fail. Cassava is also advantageous for poor farmers because the roots can be stored underground until they are needed. Because cassava produces a large number of calories for a minimal amount of labor, and because of the storability of roots, this crop can be important for families who have lost productive members to AIDS.

The major factors constraining production are diseases and pest, which include Cassava Brown Streak Virus, Cassava Mosaic Disease, Cassava mites and Cassava mealy bugs. A study in 1996 found that 63% of respondents reduced cassava production due to diseases and pests, whereas only 6% reduced production due to poor markets or preferences for other crops.¹⁷ The brown streak virus is particularly bad because it causes the roots to rot underground, negating the storability of the crop.

Sweet potato



Sweet potato is the primary food staple in Shinyanga and Mwanza regions. In other areas, it serves as a secondary staple in addition to maize or cassava. Production has doubled over the past six years, as the crop has been increasing grown for the urban

market, instead of only for home consumption. This trend is likely to continue as mining towns in western Tanzania, like Gaeta, rapidly expand.

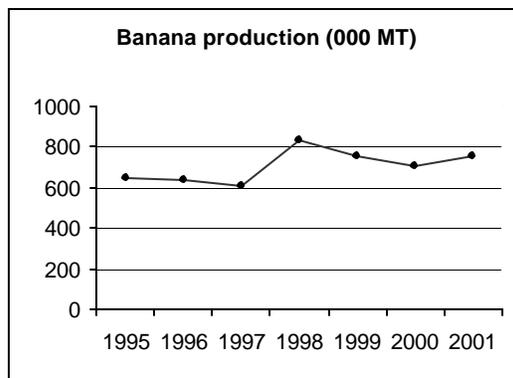
Sweet potato is often intercropped with maize. It can be stored in the ground, like cassava, but the sweet potato weevil is a major pest which can ruin a crop if it is left too long.

Despite its relatively low value for bulk, sweet potatoes are being shipped long distances from production areas in the west to urban centers. Under tropical conditions, the crop has a shelf life of three weeks. This means that sweet potato is a seasonal crop, despite the year-round demand. Damage during transport is another major problem because shriveled, cut or broken roots are reduced in value by 10% to 30%.¹⁸

In other countries severely affected by AIDS, like Uganda, sweet potato and other root crops have become more important because of their storability and relatively low labor requirements, as compared to other field crops.

Banana

The fourth most important food crop is banana. The data for this crop includes both sweet varieties and starchy varieties, like plantains, which are eaten as a staple food in Kagera and Kigoma Regions. Most of the bananas produced in Kilimanjaro and Mbeya



Regions are sweet varieties, and these are marketed in Nairobi and Dar es Salaam. As with other food crops, banana production has shown a slow upward trend, tracking population growth.

Because bananas are propagated by cuttings (the seeds are sterile), diseases are easily spread and there is little genetic diversity within varieties. For example, the Cavendish variety, which accounts for 99.9% of all sweet bananas consumed in the world, is

nearly genetically identical wherever they it is found.

A new fungal disease, called Black Sigatoka, is threatening Tanzanian banana production. This disease, which originated in the Fiji Islands in 1963, has reduced banana yields by 40% in Uganda. The disease turns the leaves brown and black, reducing the plants ability photosynthesis and therefore to produce fruit. It also promotes early ripening of the fruit, which greatly reduces marketability. The disease can be combated with fungicides, but these are expensive and the fungus has rapidly developed resistance to a progression of fungicides. It may be possible to resolve this problem with genetically engineered varieties that have been development in Central America. The

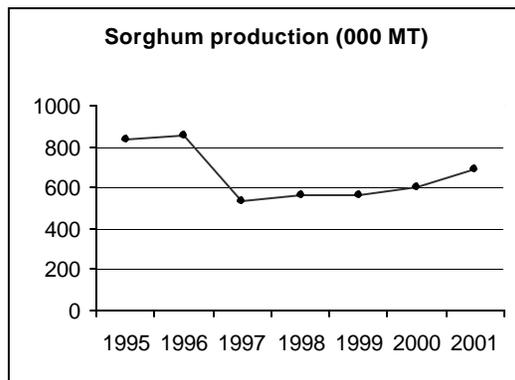
¹⁸ www.new-agri.co.uk

Belgian Government has an on-going program in Kagera Region, working on all aspects of banana production and marketing.¹⁹

Sorghum

In 2001, sorghum was the fifth largest crop, although in other years pulses or paddy rice have occupied this position, as the tables in Annex 3 shows. Sorghum is an indigenous crop, unlike maize, which was introduced from Central America during colonial times. As an indigenous crop, it is well suited to the semi-arid conditions of central Tanzania, where it is the main staple for several ethnic groups. Sorghum is also widely used for brewing opaque beer.

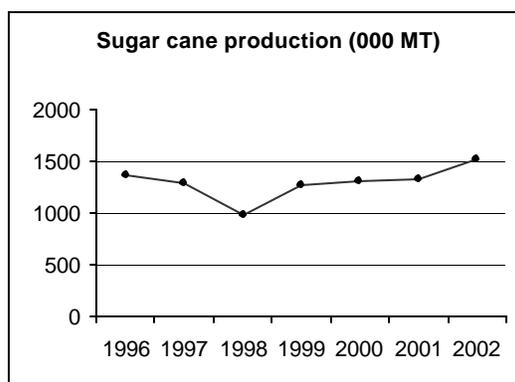
The drop in production during the 1990s is a result of increasing preference for maize, especially in urban areas, because it is simpler and quicker to process and cook. The decline of sorghum production was encouraged by Government extension staff and policies that subsidized maize seed and tied fertilizer loans to maize production.



traditional varieties, which may be better suited to central Tanzania.²⁰

Despite sorghum's traditional role and continued importance, there has been little research of introduction of improved varieties. One new variety, called PN 3, was introduced from Zimbabwe, as part of a drought relief program in 1992. Because it matures more rapidly, has slightly higher yields, and is white in color, it has spread rapidly through farmer-to-farmer seed exchange. This has resulted in increased productivity, but a reduction in the use of

Sugar cane



Sugar cane is produced by four estates – Kilombero Sugar Company, Mtibwa Sugar Estate, Tanganyika Planting Company and Kagera Sugar Estate. Two of the estates, Kilombero and Mtibwa, also have out-growers, whose contribution has increased recently. For example, Kilombero's out-growers produced 133,500 MT of sugar cane in 1998, which rose to 258,795 MT in 2002. Sugar cane has become a profitable cash crop for many farmers around these estates,

displacing rice.

¹⁹ www.afrol.com/News2003/af001_bananas.htm

²⁰ www.grain.org/publications/dec992-en.cfm

There are currently 6,000 outgrowers producing cane for Kilombero and 3,500 working with Mtibwa. Typically the companies provide inputs, including land preparation, as well as post-harvest services like transport. Sugar cane production fell in the 1990s, due to dysfunctional parastatal enterprises. As these have been privatized and rehabilitated, cane production has risen steadily.

Overall sugar production has increased from 130,000 MT to 190,120 MT in '02/'03 and is expected to continue to grow to 248,000 MT in '03/'04. Despite these increases, sugar prices in Tanzania are higher than on the world market and elsewhere in the region, such as Kenya. Because of this, the local industry is protected by tariffs

The table below shows where the increased production is expected to come from:²¹

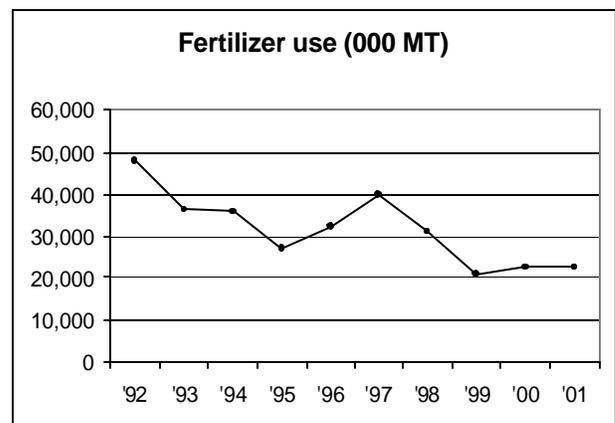
Company and source of investment	Estate	2003 production	2004 production
Illovo Sugar (South Africa)	Kilombero	98,420	106,000
Consolidated Investment Enterprise (Mauritius)	Tanganyika Planting Company	54,850	62,000
Sugar Industries Ltd. (Mauritius)	Mtibwa	36,850	50,000
	Kagera		30,000

With national sugar consumption estimated at 340,000 MT, local production will approach demand in the next few years. However, per capita sugar consumption is expected to rise more rapidly than population growth as incomes rise. The potential for growth can be seen when Tanzania's per capita consumption rate of 9.8 kg per year is compared to Kenya's at 16 kg per capita. Another possibility for growth is the export of sugar to the European Union under the Everything-But-Arms program. Last year, exports totaled 22,700 MT.

1.4 Pattern of input supply

During the 1970s and 1980s, the Government was imported and manufactured fertilizer. It was distributed free of charge, or at heavily subsidized prices, in an attempt to boost agricultural production. At the peak in 1988, fertilizer consumption was more than 100,000 MT per year. The cost of this policy was estimated at more than \$10 million per year, which eventually became unsustainable. Markets were liberalized and now all the fertilizer is imported by the private sector, mostly from South Africa.

Today, fertilizer and other purchased inputs are not widely used by small-scale farmers in Tanzania. The most recent National Sample Census of Agriculture (NSCA) found that in 1995, 15% of Tanzania farmers used fertilizer, 27% used improved seed and 18% used pesticides. The NCSA was redone last year,



²¹ Business Times, September 26, 2003

and the results are not yet available, but according to FAO data (shown in the graph to the left) fertilizer use has continued to decline since 1995.

Fertilizer use rates are also declining from 8.4 kilograms per hectare in the 1980s to 6.1 kilograms per hectare between 1996 and 2000.²² During the 1980s, the majority of the fertilizer was being used in the Southern Highlands for maize production. Today, the majority of fertilizer is being used in Tabora Region on tobacco, and in northern Tanzania for coffee, vegetables and other high value crops.

The situation with improved seed (both open pollinated and hybrid) is similar to fertilizer, in that it was produced by Government and distributed free or almost free. In the late 1980s, TANSEED was producing 7,000 MT of open pollinated maize seed and importing 2,000 of hybrid seed from Kenya. In the past, much of the improved seed was being used by maize farmers in the Southern Highlands. By the NCSA in 1995, the greatest use of improved seed was in Kilimanjaro, Tanga, Dodoma and Singida. This may be the effect of imported seed from Kenya being marketed in the northern half of the country.

DANIDA has a program in the Southern Highlands to increase local seed multiplication. Although the goal of the program is to promote farmer-to-farmer seed sharing, some participants are selling their seed to town-based stockists. This indicates that there may be un-met demand for good quality open pollinated seed, especially in the south.

Pesticide importation and distribution was never controlled by the Government, like fertilizer and seed. However, use of pesticides has also declined an estimated 40% since the 1980s, due to declines in coffee and cotton production, which account for 70% of pesticide use. Demand for cashew and tobacco pesticides has increased, due to the rehabilitation of these sectors. For example, the use of sulfur increased from 100 MT in 1990 to 900 MT in 1996. For cotton, cashew and tobacco, pesticides or spraying services are provided to some farmers by the private sector, on an out-grower basis.

1.5 Key transaction costs faced by producers

In general, transaction costs across the board are higher in Tanzania than other countries in the region, especially Kenya.

According to TANESCO itself, its electricity tariffs for industrial users are among the highest in Africa. This is due to the large amount of diesel generated power, a rural electrification program that is trying to cover a dispersed population and long term loans owned by TANESCO to the Government.²³ In addition to high cost, TANESCO power fluctuates by as much as plus or minus 10%. This adds costs to businesses which must purchase voltage regulators or risk damaged equipment.

²² Michigan State University Agricultural Economic Department

²³ www.ippmedia.com/guardian/2003/05/28/guardian3.asp

The water company, Dawasa, is burdened with a leaky, in-efficient pipe system. The supply is so irregular that most companies must have their own wells, or pay for water to be trucked in. Both TANESCO and Dawasa have great difficulty in collecting payment for their products, which makes investment difficult.

On the positive side, both the EU and World Bank are investing in the water system. The Songo Songo natural gas fields are being tapped by a consortium of investors. The gas will be used to generate less expensive electricity. There are plans to privatize these companies, once re-investment has been completed.²⁴ As a first step towards privatization, since 1999 other companies have been allowed to generate and sell electricity to TANESCO.

The following table compares gasoline and diesel fuel prices for Tanzania and its neighbors.²⁵ These prices are from 2000, but are assumed provide an accurate comparison, as the Tanzania prices continue to be accurate in dollar terms.

(\$/liter)	Uganda	Tanzania	Kenya	Mozambique
Diesel	\$0.75	\$0.73	\$0.60	\$0.54
Gasoline	\$0.86	\$0.75	\$0.71	\$0.56

Higher fuel prices in Uganda would be expected, due to transport costs inland from the coast. Among the three East African neighbors with similar access to the Indian Ocean, Tanzania's fuel prices are the highest.

Corporate income tax rates are similar across the region, although Mozambique has a special provision for agri-businesses. Value added tax rates are higher in Tanzania than its neighbors.²⁶ Across the region, unprocessed agricultural products and exports are zero rated or VAT exempt.

	Tanzania	Uganda	Mozambique	Kenya
Corporate tax	30%	30%	10% agribusiness 35% all others	30% resident 37.5% non-resident
Value Added Tax (VAT)	20%	17%	17%	16%

In addition to national taxes, district governments can impose their own taxes and fees on agricultural products. The taxes, which are called "cesses", are levied at points of sale and road blocks on roads that cross the district. In some cases, the crop must be produced or sold in the district to attract the tax. In other cases, cesses are charged on goods as they move across the district, or when they arrive at their destination. Fees are charged for bicycle and push cart ownership, petty business licenses, and a variety of other activities.

²⁴ www.washingtonpost.com

²⁵ www.zeitlow.com/docs/Fuel%202000.pdf

²⁶ Investment promotion web sites for each country

Although these cesses and fees are an important part of district government funding, the national government recognizes that they can be a barrier to growth of the agricultural sector. In the June, 2003 budget speech, the Finance Minister stated:

“Mr. Speaker, despite the Government efforts to reform the sources of revenue for local authorities and its collection mechanisms, still there are complaints from the ordinary people and business entities on the nuisance caused by revenue collectors. There are problems of multiplicity of levies and fees to the tune of 60 in number, the majority of which are of nuisance in nature and have exorbitant rates. Apart from discouraging the tax payers, they also weaken its administrative capacity. In view of this, I propose to abolish a number of levies and fees charged by Local Governments and remain with very few of them which are beneficial to the people in rural and urban areas.

Mr. Speaker, together with these measures, it is proposed that taxes and levies should not act as barriers in the productive sectors and especially the agricultural, fisheries and livestock sectors as well as the small scale industries. The directive by the Government that levies on agricultural produce should not exceed 5 percent of the farm gate price must be complied with; the produce should not be taxed more than once, for instance if produce cess has been levied on beans at source, they should not be taxed at destination. No other levies should be imposed on the same commodity when it enters the market place as the seller of same beans had already paid the business license to operate at the market.”

Cesses affect both exports and domestically marketed crops, reducing Tanzania’s competitiveness and raising costs for consumers. A study commissioned by Technoserve found that coffee was taxed at a higher rate in Tanzania than in competitor countries, and that a relatively small portion of these taxes was reinvested in the sector. The table below summarizes the best data available for several coffee producing countries:

	Taxes as a percent of the farm-gate coffee price	Percent of taxes re-invested in the sector
Tanzania (2002 data)	21.4%	37.5%
Kenya (1999 data)	18.3%	95.6%
Ethiopia (1998 data)	14%	7.4%
Uganda (2001 data)	5.3%	30.1%
Costa Rica	2%	99.8%
Guatemala	1.1%	98.1%

Technoserve used this study to effectively lobby Government for a reduction in taxes on coffee, to increase the competitiveness of the sector. They plan taxation studies for other key sectors, but currently this data is not compiled for other crops.

In addition to the financial and nuisance cost of these cesses, they also make it difficult to standardize weights for sacks of crops. Because the cesses are charged on a per bag basis, buyers have every incentive to create ever larger sacks. In some cases, two sacks are joined together to create one huge sack. Besides being an onerous physical burden for the laborers loading and unloading the sacks, they are often an excuse to underpay farmers. Export crops must be re-bagged in standard sacks after they arrive at destination, increasing costs.

From the Finance Ministers budget speech, it is clear that central Government recognizes the problems that the multitude of cesses and fees are causing, and desires to make changes. However, the magnitude of this task is daunting considering that Tanzania has 125 districts, each with its own structure of fees and cesses on a wide variety of cash and food crops. In addition, the districts have every incentive to maintain the taxes, since they fund the district Government (including the salaries of the tax collectors). Finally, looking at the example of the beans in the Ministers speech, it is evident that there will be a tension between rural districts that want to tax crops at production and urban districts that want to tax crops at market.

The following section contains an overview of the licensing requirements that Tanzanian agribusinesses encounter. A much more detailed account of this information can be found in the Investor's Road Map prepared by DAI. The third edition of this document has recently been released. Within the agricultural sector, the Government requires licenses for the following businesses:

- Seed companies (Ministry of Agriculture and Food Security)
- Importers of biological control agents (MAFS)
- Importers and exporters of plants and plant products (MAFS)
- Pesticide importers and retailers (Tropical Pesticide Research Institute)
- Importers, exporters and processors of food products (Ministry of Health)
- Importers and exporters of livestock and animal products (Ministry of Livestock)

In addition there are semi-autonomous boards, appointed by the Ministry, for all the major cash crops including tea, coffee, sugar, pyrethrum, cashew, cotton, tobacco and sisal. Each board is governed by its own legislation, and has the power to raise its own funds. The roles and responsibilities of the various boards differ, but common functions are:

- Issuing licenses to companies wishing to purchase, process or sell crops
- Arbitrating between exporters, processors and farmers
- Conduct or promote research
- Conduct crop auctions (for coffee)
- Regulate product quality
- Providing advice to Government on policy
- Collecting and maintaining statistics on the sector

1.6 *Food security in Tanzania*

During an average year, Tanzania produces enough food for its population. For example, following the 2002/03 season, only the regions of Arusha, Dar es Salaam, Kilimanjaro and Tabora reported food deficits. Except for Tabora, these regions have large urban populations that typically buy their food from the rural areas. Overall, the regions reported food production of 8.6 million tons as compared to food requirements of 8.4 million tons. Therefore Tanzania, as a nation, was food secure even in a year with very uneven rainfall.²⁷ During years with better rainfall, Tanzania exports maize, beans and other food crops to its neighbors, especially Zambia and Kenya.

At the household level however, there are many families that are barely at subsistence level. According to the data presented earlier, 2.6 million households farm between 0.4 and 0.8 hectares. Assume for ease of calculation that this land was planted with maize. The nationwide average maize yield is 1.4 tons per hectare. Assume that a relatively disadvantaged family could achieve a maize yield of one ton per hectare. Based on this, the family would grow between 400 and 800 kilos of maize for the year. This amount of maize (once milled into flour) would provide 3,920 to 7,842 kilocalories (kcal) per day, over the course of a year.

A working adult needs about 2,000 kcals per day. Based on this simplistic analysis, a household with four adult equivalents would need to grow 0.8 hectares of maize and a family with three adult equivalents would need 0.6 hectares. Since the average family size is 5.1, it is likely that more than a million Tanzanian families are barely meeting basic food requirements. This is borne out by UNICEF statistics showing that 29% of Tanzanian children under five are moderately or severely underweight and 44% are moderately or severely stunted.

This analysis leaves out many relevant factors, but they probably balance each other out. For example, most farmers intercrop with beans or groundnuts, which would provide additional calories from the same land. On the minus side, post-harvest losses can be as high as 30%. The benefits of oilseed production for poor farmers can be seen in this example, especially if manual presses are available to produce calorie-rich cooking oil.

1.7 *Availability of financial services*

With the collapse of the cooperative system, most farmers do not have access to financial services. The main sources of financing are inputs provided agribusinesses and a limited, but growing, number of Savings and Credit Associations (SACCOs).

The cash crops which provide inputs to some farmers are coffee (through the National Input Voucher Scheme), tobacco, sugar cane, cotton and cashew. As described earlier, about 1.2 million farmers produce these crops, however not all have access to these

²⁷ Public Expenditure Review for the Agricultural Sector 2002/03

programs. These tend to be male-headed households, with larger than average land holdings.

The table below shows the recent growth of SACCOs.²⁸

	Number of SACCOs	Number of members	Value of shares (billion TSh)	Deposits (billion TSh)	Loans issued (billion TSh)
2000	803	133,100	5.6	8.4	11.5
2001	927	137,300	6.6	8.6	12.4
2002	1,035	142,700	6.6	8.7	12.2

The SACCOs members probably do not add significantly to the number of farmers with access to financing, because many of them also produce cash crops. In fact, SACCOs function best in high potential regions where farmers have money to save and input loans make economic sense. Women comprise about 15% of the SACCOs membership. For many members, the ability to save money is more important than borrowing, because it provides a safety for the family in case of illness or other emergency.

Many of the SACCOs have received working capital from the CRDB bank, which in turn received the funds DANIDA. This assistance totals \$4.8 million. IFAD, African Development Bank, DANIDA and the Netherlands have programs that are providing SACCOs with training and technical assistance. The establishment and relatively smooth functioning of these rural financial institutions is widely viewed as a success story.

1.8 Key constraints to increasing incomes of small-scale producers

Constraints to increased income can be found in all areas of agricultural production and processing. The list below summarizes the major constraints in four broad areas:

- Technology development and transfer
 - Poor crop and animal husbandry practices
 - Continued use of hand tools by the majority of producers
 - Continued dependence on rain-fed agriculture
 - High cost and unreliable supply of modern inputs
- Extension services
 - Low staff motivation due to low remuneration and lack of supervision
 - Weak links between research, extension and the farmer
 - Lack of training on new crops and technologies

²⁸ Public Expenditure Review for the Agricultural Sector 2002/03

- Infrastructure
 - Poor transport and communication infrastructure
 - Limited access to financial services

- Agricultural marketing
 - Few functional marketing organizations, with the collapse of the unions
 - Lack of value-adding at farm or village-level
 - Limited of information about prices and quality requirements

1.9 Policy distortions that are affecting agricultural growth

There are two main policy distortions that are affecting agricultural growth – excessive regulation or export crops and excessive taxation. The situation regarding national taxes and district level cesses has been discussed in section 1.5.

The regulations are imposed by semi-autonomous crop boards for tea, cotton, pyrethrum, sugar, cashew and coffee. The members of the boards are appointed by Government and serve at the pleasure of the minister. These boards have nearly unlimited powers to regulate all aspects of production, processing and export of their crops. Although each board is covered by different legislation, the following functions are common across the boards:²⁹

- Promoting development of the crop
- Granting and administering processing and export permits
- Collecting statistics
- Offer financial or other support to the industry
- Administer funds collected by the industry, like crop cesses
- Control diseases and pests
- Regulate and maintain quality of the crop
- Promote research and development
- Represent the Government at forums relating to their crops
- Conduct crop auctions (for coffee)

Generally, agribusiness views the crop boards as burdensome regulatory bodies, covering many functions that would be better left to the private sector. The boards are funded through a levy on exports of about 3%. An average of 2% of this money goes into crop promotion funds and the balance is used to administer the boards. The boards also raise money through license fees. For example, each coffee exporter needs separate licenses for buying, curing, warehousing and exporting coffee. Each of these licenses cost \$2,000 per year, creating a considerable barrier for small firms.

²⁹ Tanzanian Agricultural Exports, World Bank, 2002

Some of the boards issue indicative prices prior to the buying season. In some cases, these have been higher than the actual price, disrupting the marketing season. In other cases a low indicative price has been a prelude for the board to purchase the crop itself. The boards also issue regulations that are not in the interest of the sector. For example, the regulation issued in 2000 by the cashew board that exporters were required to use sisal sacks was seen as attempt by the Government to support the ailing sisal sector.

The private sector also takes issue with the paperwork burden imposed by the boards. In a particularly egregious example, the Tobacco Board requires copies of an estimated 650,000 tobacco purchase tickets and 22,000 purchase contract notes each year. The companies also must submit weekly purchasing and shipping reports to the board. The companies must also obtain buying permits from each district where operate and submit to annual inspections of all their facilities.

1.10 The affect of HIV and AIDS on agriculture

Tanzania has measured the prevalence of HIV in two ways: among new mothers in selected antenatal clinics in six regions across the country (called surveillance sites) and among male and female blood donors in each of the 20 regions. The table below shows the most recent data available for the percentage of HIV infections³⁰. For the antenatal clinics, the averages, as well as selected locations are provided.

	Percent of male blood donors in 2001 with HIV	Percent of female blood donors in 2001 with HIV	Percent of antenatal clinic attendees in 2001/02 with HIV
Arusha	17.2	20.4	
Coast	8.0	21.2	
Dodoma	7.8	8.7	6.1 (average) 11.0 (roadside) 0.5 (rural) 9.8 (urban)
Dar es Salaam	18.2	31.4	12.8 (average) 16.4 (highest) 10.0 (lowest)
Iringa	17.9	21.4	
Kagera	22.3	20.5	5.6 (average) 8.5 (urban) 4.3 (rural)
Kigoma	4.8	5.1	
Kilimanjaro	5.8	6.9	6.3 (average) 7.6 (urban) 5.5 (rural)
Lindi	3.2	6.7	
Mara	7.8	11.1	
Mbeya	14.4	21.0	16 (average) 17.2 (border) 17.1 (roadside)

³⁰ Surveillance Reports for HIV/AIDS and STIs, Ministry of Health, 2001 and 2002

	Percent of male blood donors in 2001 with HIV	Percent of female blood donors in 2001 with HIV	Percent of antenatal clinic attendees in 2001/02 with HIV
			17.9 (urban) 7.1 (rural)
Morogoro	16.3	22.3	
	7.2	14.9	7.1 (average)
Mtwara			12.5 (urban) 4.0 (rural)
Mwanza	7.7	9.3	
Rukwa	11.0	8.8	
Ruvuma	10.3	14.1	
Shinyanga	8.0	11.8	
Singida	11.6	12.1	
Tabora	7.3	8.9	
Tanga	8.6	8.6	
Overall average In 2001	10.4	13.7	9.6
Overall average in 1992	5.9	5.3	

People working in the health field in Tanzania feel that this data generally represents the problem of HIV in Tanzania, but may not be accurate at regional level, due to the small sample size. The sample is also biased towards urban areas, where more people are donating blood and accessing antenatal care. To obtain more accurate prevalence rates, USAID Tanzania is working with the Ministry of Health and TAC AIDS to conduct the first nationwide HIV testing of a statistically valid sample. This data is expected to be available in March of 2004.

However, even from this data, several trends are evident:

- HIV infection rates in Tanzania are increasing at about 0.75 % per year
- Rates in isolated rural areas are still relatively low
- Rates in border areas and roadside villages are among the highest, supporting the well known idea that the spread of AIDS and commerce are closely linked

Based on this data, and trends from other countries, the FAO predicts that the agricultural labor force in Tanzania will decline by 13% between 2000 and 2020. Along the same lines, IFPRI has analyzed data from the recent Labor Force Survey, and finds that percentage of working adults aged 20 to 35 has declined, while the percentage of children aged 10 to 14 in the labor force has increased.³¹ Studies on the effect of AIDS on agriculture in Tanzania are limited, but good studies have been done in neighboring countries where the epidemic is more advanced.

³¹ HIV/AIDS and the labor force in Tanzania, IFPRI, Peter Wobst, August 2003

In Kenya, the nationwide HIV prevalence rate is estimated at 14% and life expectancy has declined by 10 years. The Tegemeo Institute surveyed 1,422 households to determine the effect of adult deaths from AIDS on rural households.³² The main findings were:

- Adult deaths from AIDS were positively correlated with wealth and social status, as has been found in urban areas. This will be an important factor to consider for a program working with farmers' associations, as these groups also tend to be correlated with wealth and status.
- Families in which the head of the household died, suffered the most. In these families, household size declined by more than one as other adult members left and the value of crop production fell by 47% to 68%.
- If a prime age male member of the household died, cash crop production declined, whereas if a female adult died, cereal crop production fell.
- Families coped with prime-age adult deaths by selling agricultural assets, mainly small animals and farm equipment. This was associated with a decline in farm production. Off-farm income also declined. Over the three period of this survey, families in this situation did not recover their former status.
- When the male head of a household dies, his widow may be "inherited" by another family member. This practice is still common and is likely to exacerbate the spread of AIDS. In other cases, widows resort bartering sex for food and other household needs.

In Uganda, prevalence rates reached 30% in 1992, and have now dropped to 8%. A comprehensive baseline study by FAO, using a randomly selected sample, was published this year.³³ Key findings of this study are:

- Over the past five years, affected families (with sick or deceased members) have reduced cultivation of labor intensive crops. In non-affected families, the trend was the opposite. For example, affected families reduced maize production by 23% between 1997 and 2002, while during the same period, non-affected households increased maize production by 247%. Pumpkin production among affected households rose by 15%, while in non-affected households it fell by 58%.
- Ownership of livestock and productive agricultural equipment such as hoes, plows and livestock feed troughs fell among affected families. It was noted that selling household assets was the most common way to raise funds for medical care or funerals.

³² Measuring the effects of prime-age adult mortality in Kenya, Tegemeo Institute, February 2003

³³ The impact of HIV/AIDS on the agricultural sector and rural livelihoods in Uganda, FAO, August 2003

- Crops yields in affected families declined due to poor agronomic practices and declining use of fertilizer, manure and improved planting material. This was especially noted in households that had become female or orphan headed. The number of crops cultivated has also declined.
- Members of affected households consumed less food. This was due to lower production and an increased number of foster children.

2. Commercial agriculture and the poor

2.1 Historical profile of the main crops produced for export

Traditionally agricultural crops have been the main export earner for Tanzania. Although agriculture was eclipsed by gold in 2001, it is still essential for the balance of trade and as a source of cash for farmers. The table below shows changes that have occurred during the 1990s.³⁴

	Average export earnings Millions of dollars 1995 to 2000	Increase in earnings since 1990 to 1994 in percent
Coffee	\$111	+ 29%
Cashew nuts	91	+ 283%
Cotton	76	- 3%
Tobacco	45	+ 102%
Tea	28	- 4%

Overall, Tanzanian agricultural exports grew by 9% during this period. Other East African countries, with many of the same export crops, increased their exports more rapidly during the 1990s. For example, Kenya's exports grew by 50% and Uganda's by 153% during the same period. The comparison with Kenya is particularly apt, since export levels of the two countries were the same in the 1970s. Since then, Kenya's agricultural exports (especially horticultural products) have grown steadily, whereas Tanzania's have stagnated.

The main policy differences between the two countries were (and still are):

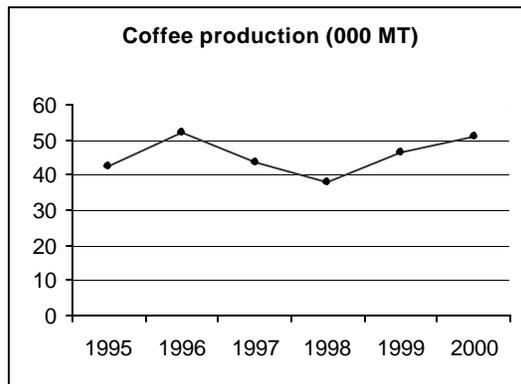
- Government intervention in the economy was much greater in Tanzania
- There is stronger agricultural research and extension for export crops in Kenya
- Marketing boards have much greater control in Tanzania than in Kenya
- Kenya taxes agricultural exports at a much lower rate than Tanzania

Even assuming the best possible policy environment, which is still a long ways off, prospects for the main Tanzanian export crops are mixed. Worldwide, commodity prices have been slowly declining for more than a century, mostly due to improved processing technology and greater ability to substitute raw materials. The commodities that Tanzania exports are following this pattern, with the following variations:

³⁴ Tanzanian Agricultural Exports, The World Bank

- The prospects for coffee are worst because of slow global demand growth, large stocks and surplus production. Global output is currently 109 million bags, compared to consumption of 102 million bags. Brazil, Columbia and Vietnam are all increasing production rapidly.
- Prospects for cashews are better because of demand growth of 7% per year. The price of cashews has fallen in the last two years, due to increased production in Brazil and India, but it is expected to stabilize over the next two years.
- The outlook for tobacco is also favorable because production in some areas is being curtailed. For example, the U.S. has reduced tobacco production by 40%.
- Globally, prospects for cotton producers are poor because of slow demand growth, numerous producers and competition from synthetic fibers. For Tanzania however, there will be opportunities under the AGOA program for exports to the U.S. and the Everything but Arms program for exports to the E.U.
- The outlook for tea is better than other beverages because the market is more diverse, including Western countries, as well the Middle East, the former Soviet Union and South Asia. Tea prices have fallen recently, but not as much as coffee prices.

Coffee



Coffee is Tanzania's most lucrative export crop, providing \$115 million in export earnings. Approximately 400,000 scale-scale farmers grow coffee. These farmers, who account for 95% of production, have an average of one to two hectares of coffee, often intercropped with bananas or other food crops. The remaining 5% of coffee is grown on estates.

The higher value Arabica varieties are grown in Arusha, Kilimanjaro, Mbeya and Ruvuma

Regions. The lower value Robusta coffee is grown near the lake in the Kagera Region. Nearly all of Tanzania's coffee is sold through auctions and exported. Up until 1995, all coffee had to pass through the Cooperative Unions and coffee parastatal for processing. Now however, companies can purchase coffee directly from growers and process it for export. Despite these reforms, coffee production has remained more or less stagnant, partly due to low world market prices, which have been falling steadily for the past seven years.³⁵ By 2002, world market prices for coffee had fallen 80% below their highs of the mid-1990s.

In addition to declines in world market prices, the quality of Tanzanian coffee has been steadily declining for the past 20 years. The highest quality portion of the crop, which

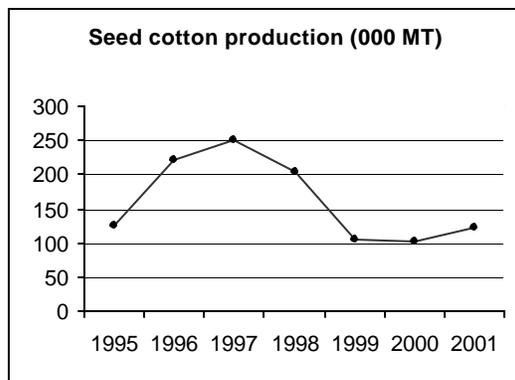
³⁵ Tanzanian Agricultural Exports, The World Bank, 2002

fetches the highest prices, has declined from 16% in 1969 to just 1.6% in 2000. This decline has been attributed to six factors: aging trees, poor crop husbandry, poor on-farm processing, the spread of coffee berry disease, limited use of inputs and poor grading.

Input use has fallen because most farmers can no longer receive inputs, especially fertilizer and pesticide, on credit. Under the cooperative and state controlled marketing system, this was feasible since there was little risk of side selling. Today, with many buyers, defaulting growers make the risk of out-grower schemes too great.

To address problem with inputs, Stabex funds from the E.U. were used to create fund that can be used for self-financing of inputs. This “forced savings” scheme, called National Input Voucher Scheme (NIVS), works as follows. Coffee buyers put a portion of farmers’ incomes into a special fund. The buyers then use this money to purchase inputs in bulk. The growers are given vouchers by the buyers. These vouchers can be redeemed the following season for inputs. The NIVS has been well received by growers and farmers; however forged vouchers have become a problem.

Cotton



Cotton is the main cash crop for more than 400,000 small-scale farmers, most of who live in Mwanza, Singida, Kagera, Kigoma and Shinyanga Regions. The majority of the cotton is exported, contributing \$90 million to Tanzania’s export earnings. Cotton and cashew are tied as the second and third largest export crops, after coffee. The major producing countries are China, the United States, India, Pakistan and Uzbekistan. The largest importers of cotton are textile

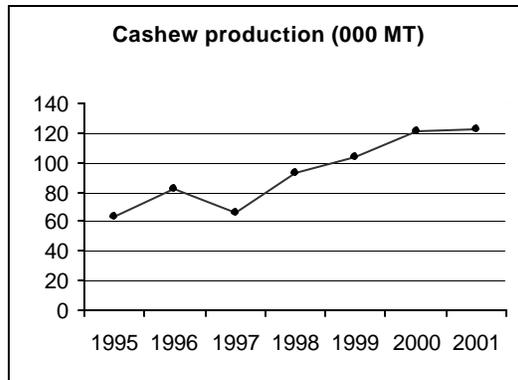
producing countries like Indonesia, India, Mexico, Thailand and Turkey.

As with coffee, cotton was produced, sold and processed by cooperative societies and parastatals. At one time, two Cooperative Unions involved in cotton (Nyanza and Shinyanga) had more than 20 ginneries and 6,500 employees. In 1984, all aspects of marketing were turned over to the Tanzania Cotton Authority. During this period, the Cooperative Unions accumulated large debts. Finally, in 1994, the Government allowed the private sector to purchase, gin and export cotton. Today, most of the cotton moves through the private sector. There are more than 22 companies involved in cotton trading, including two that are producing organic cotton. The Government is still trying to revive three of the Cooperative Unions with a fresh infusion of \$5.7 million in capital for crop purchases. It remains to be seen whether this latest effort will be successful.

Under the Cooperative Unions, farmers received inputs, and repayment was not a big problem because the unions were the only buyer. Since the entry of the private sector, several schemes have been tried to finance inputs, but these have not been successful due

to low repayments rates. The reforms have also hampered the seed supply. Previously, the union retained enough seed for distribution the following year. Now however, there are numerous oil mills trying to purchase seed, and the quantity redistributed to farmers has fallen. All of these factors combined have led to cotton yields of only 200 kilo per hectare, the lowest in the region. Quality has also declined, due to very little use of fertilizer or chemicals.

Cashew nut



Cashews are the main cash crop for 250,000 farmers in the regions of Mtwara, Lindi and Ruvuma. Cashew is also important to the national economy, providing 18% of export earnings. The U.S., Europe and Japan are the main buyers. India, Brazil, Mozambique, Nigeria and Vietnam are major producers

As with other crops, cooperative unions and marketing boards caused a collapse in production because farmers received low

prices, or were not paid at all. The revival of the sector is attributed to ending the monopoly status of the Cashew Board for exports.

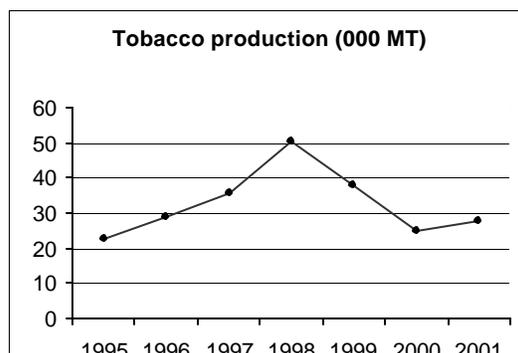
Although production has increased, quality has fallen. This is mostly because the primary societies, under the supervision of extension agents, used to grade the nuts prior to sale. Mixing nuts of different sizes together has reduced the value of all the nuts.

The cashew sector has become a model for private sector funding of agricultural research in Tanzania. Through a crop cess, the Cashew Board funds research into cashew and other crops that can be intercropped with cashew.

Although prices have fallen somewhat recently, the long term outlook for cashew is positive, as demand is growing more rapidly than other commodities.

Tobacco

Tobacco was the fourth most important cash crop in 2000, following coffee, cotton and tea, contributing about 9% of Tanzania's export earnings. It is mostly grown by small and medium scale farmers, although there are large plantations in Iringa. Flue-curing, which is done by large-scale growers, accounts for 75% of total production and fire cured 25%.



Production peaked in '97/'98 at 50,000 MT, but has since fallen by nearly half to 28,000 MT last year. This drop was due, in large part to increasing fertilizer prices which

increased the up-front cost of tobacco production. The remaining production is concentrated in medium and large-scale farms, who can afford the necessary fertilizer.

Because tobacco production is highly labor intensive, numerous minimally paid children are employed at all stages of production and processing.

2.2 *Major corporations and businesses involved in agriculture*

The table in Annex 4 contains information on 174 Tanzanian agribusinesses. These are divided into three categories: large companies with turnovers of more than \$5 million per year, medium-sized companies with turnovers of \$1 million to \$5 million per year and those with turnover of under \$1 million.

For publicly traded companies, turnover figures were readily available from annual reports. For some privately held companies, numbers were also available, from the company itself or estimated by credible sources. In other cases, estimates could be made from production volumes, number of staff, product mix, or other attributes. In these cases, the abbreviation (est.) appears next the turnover figure.

The total turnover for all the companies on the list is estimated at \$860 million. Because there probably are a large number of small and medium-sized companies (especially at regional level) that are not on the list, a total turnover for Tanzanian agribusiness can be estimated at \$1 billion. In 2002, the agricultural share of GDP totaled \$3.3 billion. Therefore, roughly 30% of agricultural GDP passes through the formal sector. This is reasonable, since 70% of Tanzanians live in rural areas and much of what they produce is consumed in the home or traded informally.

Twenty agricultural companies with turnovers of more than \$5 million were identified. The five largest are Tanzania Breweries, the Tanzania Cigarette Company, Mohammed Enterprises, Sumaria Group and Bakhresa Food Products.

Tanzania Breweries, with a turnover \$167 million and 2,000 employees, produces nearly every alcoholic beverage in Tanzania (except for Serengeti Beer, traditional brews and imported brands). The bulk of their raw material is corn starch, which is imported from Kenya. They use locally grown barley to produce malt. Previously, this was mostly grown by small-scale outgrowers. Since privatization however, the company has moved toward contracts with larger farmers and estate production, to increase quality. The Tanzania Cigarette Company produces cigarettes for the local market and regional exports. Three quarters of the tobacco they use is locally grown, mostly by small-scale outgrowers. This is blended with 25% tobacco imported from Germany to improve quality.

The third largest company is Mohammed Enterprises. This conglomerate exports a wide variety of agricultural commodities and produces food products for the local market. The company has 3,500 employees and its annual turnover was estimated at \$70 million. The company has a wide network of paid and contracted agents who purchase crops from

small-scale farmers. The company is also a large player in the sisal sector, with several large estates. Mohammed Enterprises is one of a handful of companies exporting sesame, a crop with good potential for small-scale farmers.

The fourth largest company is another conglomerate called Sumaria Group. In addition branches producing soap, cotton fiber and dairy products, the Sumaria Group includes a pharmaceutical company and a manufacturer of plastic pipe. Their brand of milk, called "Ole" is the first locally produced milk to be sold in tetra packs. The business has 3,000 employees, and its turnover was estimated at \$50 million.

Completing the top five is Bakhresa Food Products, the largest miller of wheat and maize flour and manufacturer of processed food products. Bakhresa, and its sister company, Said Salim Bakhresa, have 2,400 employees and an estimated turnover of \$40 million.

These companies were interviewed as part of the private sector assessment for the health and AIDS strategic objectives. It may be interesting for the Economic growth S.O. staff to review this assessment. Most of the companies expressed interest in working in partnership with USAID to fight AIDS among their staff and customers.

A number of companies that purchase and export cash crops have expressed interest in paying for agricultural research through crop cesses. Companies working in the tea, coffee and cashew sectors have already set up self-financing research programs, and the subject is under discussion in the tobacco and sisal sectors. This topic is covered in more detail in the section on research.

Several interesting companies can be found lower down in the list. These are highlighted because they are working cash crops in new sectors.

- Dabaga Vegetable and Fruit canning, located in Iringa, is currently producing tomato sauce and other processed foods for the local market. They have plans to begin export of organic pineapple to Europe.
- Dodoma Transport Associates (DTA), located in Babati, has begun out-grower production of pigeon peas, also for the European market. DTA is a partner of Technoserve.
- Tanzania Spices, a Spanish company based in Iringa, has begun outgrower production of paprika in the Southern Highlands
- Kakute Ltd., a Tanzanian company based in Arusha, has begun to produce hand soap from an indigenous oilseed called *Jatropha curcas*. Oil from the seeds of this plant, which grows widely on marginal lands, can also be used as a substitute for kerosene or diesel fuel.

- Optima Ltd., a Swiss Company based in Dar es Salaam, has started an out-grower scheme for *Moringa oleifera*. The seeds of this widely grown tree produce an edible oil, and other useful products including a flocculent for drinking water
- Natural Uwemba System for Health, a German company with operations in Iringa Region, is producing and processing *Artemisia annu* into tablets. This medicinal plant of Chinese origin is reputed to have the highest cure rate of any malaria drug. WHO is funding applied research on *Artemisia* in Tanzania.
- Zanz-Germ, a company based in Zanzibar, that is exporting organic chilies, cardamom, cinnamon, pepper, ginger, turmeric, lemon grass and lemon and orange peels to Germany.
- BioRe Cotton Tanzania, the local branch of a German company called Remei AG, based in Shinyanga. This company is producing and ginning organic, fair trade cotton for export to Germany, where it is spun into yarn. They offer farmers a guaranteed pre-production price and use neem-based organic pesticides. The parent company, which also operates in India and the Baltic States, is the world's largest producer of organic cotton textiles.
- Senter International, a Dutch company, has installed an oil mill in Arusha to produce organic safflower oil. Last season they contracted several thousand farmers to produce safflower for them. This crop is grown after the rainy season using residual soil moisture, so it does not conflict very much with labor requirements for food crops.

2.3 *Role and effectiveness of producer organizations*

Producer organizations in Tanzania can be divided into three groups: primary societies, cooperative unions, and farmers' associations.

Primary societies were the grass roots level of the former cooperative system. They were based at village level and included all the farmers in the village. Typically, they purchased crops and sold inputs to farmers. According to the Ministry of Marketing and Cooperatives, there were 4,778 primary societies in existence in 2002, of which 3,645 were active and 1,127 were dormant. The total membership of these institutions was 644,796, with an average of 135 members per society.

However the terms "active" and "dormant" were defined when the data was collected, the vast majority of the societies are barely functional because they lack funds to buy crops or purchase inputs. In many cases, the primary societies are owed money by the cooperative unions that marketed the crops for them. In some cases, the societies took delivery of crops from the farmers in exchange for vouchers. The crops were passed along to the unions, but no payment was forthcoming. Each primary society has a warehouse, or "go down" at village level. Many of these are in poor repair, but they represent the main asset of most primary societies.

Some primary societies do still function, especially with cash crops like cotton and coffee. In other cases, villages have revived their primary societies using funding from SACCOs. Generally, farmers lay the blame for the collapse of the system at the door of the cooperative unions, rather than the primary societies. Because the societies operated at village level, they were more transparent and accountable than the unions, which operated at regional and national level.

Above the primary societies, the Government created a system of cooperative unions. Some unions were geographically based, while others concentrated on certain crops. They are 48 unions, although most are defunct. The coffee and cotton unions continue to function with Government subsidies in the form of low cost financing. The cooperative unions collapsed for a variety of reasons including:

- Mismanagement and fraud
- Falling commodity prices on the world market
- Costly administrative structures
- Political influence
- An attempt to vertically integrate their operations, getting the unions into all aspects of procurement, processing and marketing
- The end of seed and fertilizer subsidies by the Government
- A sense that they were imposed by Government, rather than owned by the primary societies

Despite these problems, a NORAD funded program called MEMCOOP, is working with the Cooperative College to retrain leaders of the societies and unions. The goal is to strengthen the management of these institutions and make them more accountable to their members. The Ministry of Marketing and Cooperatives continues to view these structures as the way forward, however this view is not shared by most farmers or other donors.

During the past ten years, a new type of producer organization has developed. These are called farmers' associations, rather than societies. The main difference is that the associations are self-selected groups, rather than all-inclusive societies. Typically, a group of farmers decides to form an association to take advantage of economies of scale in crop marketing. Another term for these groups is "rural group business". They may be registered with the Government or not.

Several local NGOs are providing farmers' associations with training. Mtandao wa Vikundi vya Wakulima Tanzania (MVIWATA) is based in Morogoro, and was started in 1993 by a group of farmers and staff from Sokoine University of Agriculture. MVIWATA currently receives French and other donor funding and claims to be working with 20,000 farmers in 1,110 groups. Its main activities are:

- Organizing farmers exchange visits within and outside Tanzania
- Organizing national and regional workshops on specific topics

- Providing training to board members and leaders of local networks
- Documenting farms' experiences through videos and publications
- Production of a quarterly newsletter
- Networking with other institutions and organizations
- Sourcing funding for income generating programs of member groups
- Hold a general meeting of all members once a year

Finance and Advice in Development Assistance in Small Enterprise Promotion (FAIDA-SEP), is a local NGO based in Arusha that currently operates with funding from the Netherlands Embassy. The word "faida" means "profit" in Swahili and they offer the following services to clients in Arusha, Kilimanjaro and Tanga:

- Organizational self-assessment facilitation
- Strategic market niche development
- Management systems development
- Research and product development support
- Access to knowledge networks
- BDS sector market promotion
- Funding solicitation for innovative proposals
- Facilitation to market linkages
- Facilitation and design of specified training programs
- Support to farmer producer groups

In the area of market linkages, FAIDA is concentrating in the following sectors: flower seeds, paprika, coffee, chili seeds, beans, pigeon peas, sunflower and safflower. They have linked producers to Pop Vreind, a Dutch flower seed company and Evsa, a Spanish paprika company.

FAIDA received a grant from USAID's Microenterprise Best Practices Project in 1999 to field test approaches to for business development services. There is documentation about FAIDA and this initiative on the web site shown below.³⁶

It is impossible to know how many farmers associations exist in Tanzania, since many are not registered. However, from discussions with farmers, it is clear that they are receptive to the idea of individual production and collective marketing, as long as they do not repeat the mistakes of the cooperative unions.

When considering farmers' associations as a program activity, it may be interesting to look at the example of northern Mozambique. As with Tanzania, Mozambique went through a period of imposed socialism. The cooperative movement in Mozambique was harsher than the Tanzania variety, with forced relocation of villages into protected areas and collective production. By the time the Peace Accords were signed in 1992, there was virtually no organization of farmers at village-level, and farmers had a serious distrust of any collective activities.

³⁶ www.mip.org/pdfs/mbp/faida.pdf

Starting in 1995, the Cooperative League of U.S.A. (CLUSA) introduced the idea of farmers' organizations for crop marketing. The idea caught on rapidly, and today there are more than 1,000 associations of 20 to 30 members each. The first business for most associations is using advances of money from traders to buy crops. The traders are willing to pay 10% more than the prevailing crop price for the bulking service that the associations perform. For this business, the associations only need a small, locally constructed warehouse and a scale. Later, many associations get involved in selling inputs and using their own resources to procure crops, which is more lucrative because they can sell to the buyer with the best price.

To increase their economic power, groups of ten associations have banded together into structures called fora. These cover several villages, but are still local enough for transparent management. The fora now have the capacity to develop business plans, access financing (loans averaging \$5,000) and engage in a variety of business activities. The members of each association and fora produce a profit/loss statement at the end of the year, in a participatory process.

Achieving this level of organization and transparency has required three types of training: business planning and business skills, governance and literacy. Functional literacy and numeracy were found to be key components in transparency, because all members need to understand the contracts the association is signing and participate in the business planning process. Without literacy training, the associations can be hijacked by more educated members, who also tend to be local elites.

3. Tanzanian Development Policy and Agriculture

3.1 The Government's Poverty Reduction Strategy and links to USAID

Tanzania has developed a credible Poverty Reduction Strategy (PRS), now in its third year of implementation. The clearest example of tangible change for poor people is found within the education sector. Twice as many children now enter the first year of primary school since fees were abolished and pupils now benefit from thousands of newly built classrooms. PRS priority sectors are receiving increased budget allocations, both in absolute terms and as a proportion of the overall budget, though concerns remain over the strategic allocation of domestic resources. The proportion of external resources that flow through direct budget support is increasing. Direct budget support is expected to provide 22% of the total government recurrent expenditure estimates in 2003/04. A comprehensive and robust poverty monitoring system is generating solid data and organized civil society is increasingly participating in policy process.

The PRS defines poverty as having two parts: income poverty and non-income poverty. Income poverty is broken down into two types, rural and urban. Non-income poverty is divided into four areas: human capabilities, survival, nutrition and extreme vulnerability.

USAID's proposed S.O. directly addresses two of these areas in a comprehensive way. The program is built around increasing the capabilities of producer organizations to increase rural incomes.

The Agricultural S.O. also plans to monitor the results of the Demographic and Health Survey (DHS) to insure that income gains are improving the nutrition of the entire household. Improvements in nutrition could come in two ways. First, as income levels rise, families will be able to purchase nutritious foods, like cooking oil and dairy products. Secondly, greater agricultural productivity and a more diversified crop mix should result in greater availability of oilseeds and legumes in the household.

In its PRS, the Government identifies cross cutting themes, which closely mirror the cross cutting themes of the USAID program. These are: the environment, gender, good governance, HIV/AIDS and employment.

The indicators and targets for income poverty in the PRS are:

- Halving the proportion of the population both basic needs and food poverty lines by 2010, with a particular focus on the rural poor
- Achieve an overall GDP growth of 6% by 2003
- Achieve an agricultural growth rate of at least 5% by 2003
- Expand and improve investment productivity
- Develop a private sector strategy by 2003
- Rehabilitate and repair feeder, district and regional roads

With the exception of road rehabilitation, which USAID focused on in its previous program, the proposed I.R.s relating to improving marketing, productivity and policy will contribute directly towards achieving these indicators.

The first target related to improving human capability in the PRS is to "reduce illiteracy by 100% by 2010". If a producer organization is to be both profitable and transparently governed, all of its members must be literate and numerate. Currently, 24% of men and 41% of rural women are illiterate. Hence, the formation of strong producer organizations will lead toward achievement of this PRS target.

3.2 The Agricultural Sector Development Strategy and Program

The ASDS and USAID share a similar development philosophy, which leads to congruency between the ASDS and the agricultural S.O. The following quote comes from the introduction to the strategy:

"Agriculture takes place primarily in the private sector, which the ASDP is essentially designed to strengthen and support. Both the ASDS and RDS recognize that weak public administrative institutions are a major reason why the private sector response has been slow to follow reforms aimed at boosting agriculture. It is clear that public sector performance impacts on private sector

productivity. However, the private sector, both small and large-scale operators, needs to be more effective in communicating its concerns to the Government. Regarding small-scale producers, much will be done under ASDP to improve community-based planning to facilitate the emergence of, and strengthening of farmer and small-scale enterprise associations”

Several themes come out clearly from this paragraph. First, is the focus on the private sector, which the ASDS defines farmers, pastoralists, traders, processors and others engaged in agriculture. Secondly, is the importance of effectively communicating policy concerns to the Government. One important role of the producer organizations will be advocacy from the grass roots. Finally, the importance of producer and trader organizations is clear in both strategies.

The ASDS is divided into two sub-programs, one related to activities at district and field level, and the other related to activities at national level. Within these two sub-programs, various components are identified. The following table shows how many of the sub-components of the ASDS are very similar to I.R.s in the USAID strategy.

Proposed I.R.s and sub-I.Rs of the USAID Agriculture S.O.	Sub-components and selected activities of the GoT ASDS
<p>Increased access to markets</p> <ul style="list-style-type: none"> • Market information systems • More competitive agri-business • Grades and standards 	<p>Support the commercialization of agricultural growth</p> <ul style="list-style-type: none"> • Develop contract farming • Develop incentives for private sector investment in agriculture • Link producers with local and international markets
<p>Increased productivity</p> <ul style="list-style-type: none"> • Production skills improved • Post-harvest handling skills improved 	<p>Increased production and processing of agricultural outputs</p> <ul style="list-style-type: none"> • Access to low lift pumps (treadle or motorized) • Reduced tillage/no tillage farming • Access to labor saving technologies for production and processing • Develop improved pre and post-harvest loss reduction technologies
<p>Improved policy environment</p> <ul style="list-style-type: none"> • Improved investment climate 	<p>Support an enabling environment for all farmers</p> <ul style="list-style-type: none"> • Supervise implementation of and compliance with sector policies • Promote and support farmers’ groups • Strengthen the capacity for information management and agricultural advocacy

3.3 *Government policy toward biotechnology*

Across Africa, Governments are struggling to develop a coherent approach towards biotechnology. On the one hand, biotechnologies like tissue culture and genetic engineering are producing disease resistant varieties of staple crops like cassava and sweet potatoes. Also, crops like maize, rice and banana have been genetically modified to increase protein content and even act as carriers for vaccines and vitamins.

On the other hand, there is a fear of genetically modified crops and seed. For example, the Governments of Zambia and Malawi rejected GMO maize intended for food aid because they were feared that farmers would plant the grain and introduce untested varieties. There is also concern that European markets may be closed to countries producing GMO crops.

This debate is also occurring in Tanzania. Last year, the Tanzania Commission for Science and Technology (COSTECH), a Governmental institution, prepared a document calling for a national policy on biotechnology. This policy would be developed as part of the Tanzania Development Vision for 2025. COSTECH supports the use of tissue culture and genetic engineering to develop new varieties with higher yields and improved disease resistance. Several institutions are already working in these areas:

- Mikocheni Agricultural Research Institute is doing tissue culture research and identification of genetic markers in coconut, cashew, cassava, banana and pineapple, as well as diseases of these crops.
- Sokoine University of Agriculture is doing tissue culture and micro-propagation for a variety of crops, developing bio-fertilizers and researching genetic diversity in livestock herds.
- The Tanzania Coffee Research Institute is researching the genetic make-up of the virus that causes coffee berry disease.
- Mlingano Agricultural Research Institute is doing tissue culture research on sisal.
- Tengeru Horticultural Research and Training Institute is doing tissue culture and micro-propagation of bananas and sweet potatoes
- The Applied Microbiology Unit and Department of Botany at the University of Dar es Salaam is working on biotechnologies for food processing and waste disposal.
- The East Africa Regional Program and Research Network for Biotechnology, Bio-safety and Biotechnology Policy Development (BIO-EARN), which is supported by the Stockholm Environmental Institute, funds and supports some of the research described above.

However, forces opposed to biotechnology are also active. Members of Parliament recently requested regulations banning the import and production of genetically modified seeds or food in Tanzania. If these proposed regulations, which are part of the new Seed Act, become law, they could seriously hamper the introduction of new varieties developed with biotechnology.

The national policy recommended by COSTECH would include the establishment of a National Biotechnology Advisory Council to study and address concerns such as the effect of GMOs on the environment, gene transfer between organisms and disclosure of GMO content in consumer products. This council has recently been established by the Minister for Science and Technology, and it is likely that they will become the focal point for all issues related to biotechnology in Tanzania.

3.4 Tanzanian Government Budget Speech (2003 to 2004)

The budget speech delivered to Parliament by the Minister of Finance on June 12, 2003 contained many encouraging remarks. For example, he said that a main goal of the ASDS is to:

“Enable individuals to engage in business activities without hindrance and to allow them to sell their agricultural produce outside their Districts and Regions, or even to export their produce to other countries after going through simplified and transparent procedures”.

The Government’s push to decentralize itself also came across clearly in the budget speech.

“Measures have been undertaken in the 2003/04 budget include allocation of funds to finance the development of agricultural programmes at District level. These funds will be disbursed directly to the accounts of agricultural departments in the respective district councils.

However, the speech also contained references to some programs that seem to be heading away from a private sector approach. For example, The Minister stated that ASDS will:

“Improve access to credit through an export credit guarantee scheme and a new fund guaranteeing micro-credit to small-scale farmers, small-scale fishermen, small-scale livestock keepers. Small-scale manufacturers and small-scale business will be established.”

Along the same lines, the Minister also said that:

“The Government will provide modern superior seed to farmers at affordable prices. In addition the Government will subsidize fertilizer prices for Rukwa, Mbeya, Iringa and Ruvuma Regions so as to boost maize production and eliminate the risk of famine in the country”.

“Also, the Government has allocated funds to subsidize transportation costs of important agricultural inputs, especially fertilizer, so as to increase food crop production with a view to increasing food self sufficiency”

3.5 *Prevailing land tenure laws*

In Tanzania, constitutionally, all land is the property of the state. Ownership of the land is vested in the President, as the trustee of the state. Anyone using land in Tanzania must obtain the President’s (or his authorized officials) approval.

Individuals can only acquire rights of occupancy. The right of occupancy is acquired through inheritance, direct allocation by a state agency or through monetary transaction. About 90% of land acquisition in rural areas comes through customary law or inheritance. Under customary law, it is usually men, and not women, who are granted rights to use the land.

The occupier of the land must prove to the President (or his authorized officials) that the land is being used in a prescribed manner. For example, the regulations specify how much of a parcel of agricultural land must be cultivated in order to maintain occupancy. Foreigners are not supposed to own a right of land occupancy. Their use of land must be through a lease or derivative right, with a Tanzanian citizen holding the original right.

The National Land Policy of 1995 recognizes this problem and asserts that land occupancy is a constitutional right for all citizens. The latest land laws, the Land Act Number 4 and the Village Land Act Number 5, were based on the National Policy.

The Land Acts provide for security of ownership through title deeds. Two types of deeds are recognized:

- Granted right of occupancy, whereby a person can occupy the land for a maximum of 99 years or
- Certificate of Customary Right of Occupancy, whereby the certificate holder has customary rights to occupy the land indefinitely.

The creation of a second type of title deed for customary land occupancy means that traditional ways of holding and acquiring land are equivalent to the granted right of occupancy, in a legal sense. In practice, the process for obtaining Certificates of Customary Occupancy is too difficult for most people in rural Tanzania, so few have been issued.

One goal behind creating the Customary Right of Occupancy was to give small-scale farmers something to use as collateral when sourcing financing. However, the regulations in the act give judges wide latitude in deciding whether to allow foreclosure. The criteria that can be considered include:

- Age, health and number of dependants
- Experience and financial means
- Financial standing of the borrower relative to that of the lender
- Understanding of commercial transactions
- Whether the borrower will be rendered homeless or landless by the foreclosure
- Whether the borrower has alternate means to provide for him or herself
- The interest rate in comparison to the prevailing interest rate

In practice, these criteria (many of which are subjective) may not sufficiently decrease the risk of default for rural lenders.

4. Tanzania Agricultural Sector Institutional Roles

4.1 Key line ministries and other Government institutions in agriculture

There are three ministries charged with administering the agricultural activities of the Government of Tanzania. They are the Ministry of Agriculture and Food Security (MAFS), the Ministry of Cooperatives and Marketing (MCM) and the Ministry of Water and Livestock Development (MWLD). The semi-autonomous crop boards that were discussed previously fall under MAFS.

The Ministry of Industries and Trade handles agribusiness activities such as food processing and export. The Tanzania Food and Drug Agency, which falls under the Ministry of Health, regulates food import, export, storage, production, processing and sale.

Tanzania Tropical Pesticides Research Unit is a semi-autonomous body that is charged with regulating the manufacture, importation, distribution, sale and use of pesticides in Tanzania

4.2 Government at district level

The Ministry of Regional and Local Government (MRALG), which falls under the Presidents Office, manages all the staff and programs that operate at district level. This includes extensionists and other staff of the Ministry of Agriculture. Their supervisor is called the District Executive Director or DED. The DED is employed by MRALG, but answers to the elected District Council, led by the District Commissioners. The district government has the power to levy crop cesses and other fees, which are used to finance a portion of the district budget. This practice is supposed to be curtailed, according to national policy, but it continues in many areas.

4.3 Sokoine University of Agriculture and the University of Dar es Salaam

The Sokoine University of Agriculture (SUA) is based in Morogoro. It is a well regarded institution that has received large amounts of donor funding over the years. Several

donors, DFID in particular, fund research programs at the university. The Tanzania Agricultural Research Program – Phase II (TARP), which is funded by NORAD and the Netherlands, is partially implemented by SUA. FINNIDA has also funded agro-forestry research at the University.

The most applicable program to USAID's economic growth S.O. is Agricultural Economics and Agribusiness. Professors in this department have done numerous consultancies on agricultural economics. They were also instrumental in setting up MVIWATA, an NGO working with producer organizations.

The school produces 300 graduates per year. Previously, they had found positions in the Ministries, parastatals or cooperative unions. Today, however, many are forced to look for jobs outside of their profession. For example, when Population Services International is recruiting middle managers, it is often difficult to find candidates with a health background. Instead, they find graduates from Sokoine applying and often being hired. The Government would like to entice these graduates back to the land, but they lack the financing needed to implement the modern farming practices they have learned about.

The University of Dar es Salaam has a Bachelor level program in Commerce and Masters level programs in Economics and Business Administration. The University is linked to the Economics Research Bureau, which has produced many studies on the Tanzanian economy.

4.4 *Agricultural research*

Agricultural research is carried out by the National Agricultural Research System (NARS). Within this system, the Department of Research and Development (DRD), which falls within the Ministry of Agriculture and Food Security, is the largest entity. DRD has a network of 22 major research stations and sub-stations in all seven agro-climatic zones. The staff of DRD comprises 336 scientists, 411 technicians and 557 support staff. Recent developments in the system include:³⁷

- Private sector companies involved in major export crops are making a substantial contribution to research funding for major export crops. In the case of tea, a cess of 1.5% is used to fund two research stations and 10 scientists. For coffee, which was privatized in 2000, the research cess is 0.25%. This is unlikely to cover the current research program. In the case of tobacco, the industry has agreed to take over the current research program, but this has not occurred yet.
- In the cases of cashew, cotton, sugar cane and sisal, the Government continues to pay for salaries and upkeep of facilities, while research funds are coming from crop cesses.

³⁷ Reforming Agricultural Research Funding in Tanzania, Abt Associates, 2001

- In the cashew sector, significant funds have been raised, totaling \$692,000 per scientist per year. This compares to the average Government research allocation of \$8,667 per scientist per year. The Cashew Research Board has also approved project focusing on other crops that are typically intercropped with cashew.
- Agricultural research institutions are permitted to retain and manage internally generated resources. In gross terms, this accounts for around 6% of total costs. Net of directly related costs, the remainder that can be used to cover institution overheads is about half of this amount. Often, these funds come from training fees, which are often paid by donors. Other sources of revenue include renting out land, marketing research products (like milk). The challenge here is to make these activities profitable, without diverting too much attention from the research.
- Officials from MAFS are actively encouraging local governments to contribute to the research activities in their zones. Twelve district councils have allocated scarce resources to this initiative, and as of 2001 about \$21,000 has been committed nation-wide. These 12 districts were rewarded by donors, who topped up these modest sums.
- For cash crops, and many food crops, representatives of producer, processing and marketing groups are included on the steering committee that review and approved research projects.
- Efforts are underway to create a “demand driven” research system. At some institutes, researchers are financially rewarded when client-driven research produces usable results. Under the TARP II program, which has been extended until 2004, the World Bank makes matching funds available at zonal level to fund client-driven research.
- The Government is funding 56% of total agricultural research costs, supplemented World Bank IDA funds which cover another 16%. Ten percent comes from collaborative research with donors, NGOs and regional networks (like ASARECA and other CGIAR institutions). Self-help funds generate 6% and crops cesses 12%.

Despite these positive developments, agricultural researchers have limited budgets and low salaries, especially for work on food crops and livestock. A typical salary for a PhD level researcher is about \$100 per month. These staff often have to hold second jobs to make ends meet, distracting them from research. As the private sector begins to fund research on cash crops, resource levels for institutions focusing on these crops are rising, and their staff receive bonuses and topping up, which can double or triple the base salary. This is causing resentment among staff of more poorly funding institutions.

5. Bi- and multilateral investment in agriculture

5.1 Review of donor support to agriculture

The table in Annex 5 summarizes all on-going development programs (as many as could be identified) in the areas of agriculture, rural development, rural business support and natural resources. The following table shows the estimated annual contributions in millions of dollars for the largest donors.

	Support to Poverty Reduction Strategy	Agriculture and related program funding	Notes
World Bank	\$132 million	\$35.6 million	Loan funds
African Development Bank	\$124 million	\$25.3 million	Loan funds and debt relief
IFAD		\$15.6 million	Loan funds
European Union	\$ 111 million	\$14.2 million	Grant funds
JICA		\$11.9 million	Grant funds and food aid
DANIDA	\$5.8 million	\$5.3 million	Grant funds
DFID	\$107 million	\$4.8 million	Grant funds

In general, it appears that many bi-lateral donors are following the lead of the multi-lateral donors and combining basket funding to the Poverty Reduction Strategy (PRS) and Agricultural Sector Development Strategy (ASDS) with program support. Details on all the donor programs are shown in Annex 5. This section of the assessment will highlight programs that overlap with the proposed intermediate results for the Economic Growth S.O.

- The SELF program, funded by ADB, targets rural financial institutions
- The Rural Enterprise Training Program, funded by CIDA, provides business training for rural entrepreneurs
- The Business Sector Support Program, funded by DANIDA, supports a variety of initiatives including CRDB's support to SACCOs and the FEDHA Investment Fund
- The Tanzania Trade and Poverty Program, funded by DFID, supports trade reform programs that are "pro-poor" trade
- DFID funding to the FairTrade Foundation empowers rural producers through stakeholder participation in the governance of fair trade labeling
- The French Development Agency is supporting MVIWATA to work with producer organizations
- FAO is supporting vegetable garden irrigation with treadle pumps
- IFAD's Market Systems Development Programme is strengthening producer organizations and working on policy issues such as taxation and regulation.
- IFAD's Rural Financial Services Programme is training SACCOs and linking them to sources of finance.

- The Netherlands is supporting FAIDA-SEP, an NGO that links small businesses to buyers and provided business development services.
- The Netherlands and SIDA are supporting the Tanzanian Chamber of Commerce and Agriculture to operate at district level
- The Netherlands is supporting rural financial institutions to increase access to financial services
- PRIDE Tanzania, a micro-finance institution is supported by NORAD
- NORAD is supporting MEMCOOP, a program to retrain the staff of primary societies and cooperative unions.
- The World Bank's Participatory Agricultural Development and Empowerment Project is supporting farmers groups through a matching grant program administered by village councils.
- The World Bank's Rural and micro financial services project is working on policy issues related to micro finance

5.2 *Coordination of donor activities*

The implementation of the ASDS is being coordinated by the Agricultural Sector Advisory Committee (ASAC). This steering committee has four task forces. Members of the donor coordinating committee FASWOG sit on the four task forces, along with representatives from Government, the private sector and farmers associations. The task forces and division of labor among the donors is shown in the table below.

Task force 1: investment and implementation	JICA and DANIDA
Task force 2: policy, regulatory and institutional framework	EU and DFID
Task force 3: agricultural research, advisory services and training	World Bank and IFAD
Task force 4: cross cutting and cross sectoral issues	Not yet decided

5.3 *Other U.S. Government programs operating in Tanzania or East Africa*

African Growth Opportunity Act (AGOA): Provides reforming African countries with the most liberal access to the U.S. market available to any country or region with which the United States does not have a Free Trade Agreement. Tanzania has met the criteria for this program.

Agricultural Biotechnology Support Program (ABSP): A USAID funded program based at Cornell University (previously with MSU). ABSP is part of ASARECA, and promotes biotechnology research in East and Central Africa.

Agribusiness in sustainable African Plant Products (A - SNAPP): A USAID funded program based at Rutgers and Perdue, which is supporting the development of natural products for local, regional and overseas markets. They are currently working in South Africa and Madagascar with rooibos tea, herbs, cinnamon and hibiscus.

Bean and Cowpea CRSP: Based at Michigan State University, this CRSP focuses on production, processing and value-adding technologies for beans and cowpeas. In

Tanzania, they are working with SUA on the development and introduction of new varieties.

Broadening Access and Strengthening Input Systems (BASIS CRSP): This CRSP is based at the University of Wisconsin. They have done socio-economic research on in Kenya on the effects of drought and land tenure on household.

Development Credit Authority: A USAID loan guarantee scheme to provide banks with mechanisms to lend in previously underserved sectors

Famine Early Warning System Network (FEWS-NET): An Africa-wide network to collect and disseminate information and forecasts on weather, food stocks and other data related to food security.

Global Livestock CRSP: Based at the University of California. They are working on livestock breeding and to improve nutrition through greater use of livestock products. In East Africa, they have developed the Livestock Early Warning System (LEWS) in coordination with ASARECA. This is similar to FEWS, in that it tracks forage cover and predicts when problems with livestock may occur. LEWS covers northern and central Tanzania.

Initiative to End Hunger in Africa (IHEA): A Presidential initiative that focuses on using science and technology to unleash the power of market forces to increase small-holder agricultural productivity. A potential source of funding for USAID Tanzania's agricultural program

Integrated Pest Management CRSP: This CRSP, which is based at Virginia Tech University, focuses on development and dissemination of IPM techniques for horticultural and other. In Africa, they are working in Mali and Uganda. In Uganda, they are researching pest control for cow pea, groundnut, sorghum, tomato, potato, coffee and maize.

International Sorghum and Millet Collaborative Research Program (INTSORMIL): A CRSP based at the University of Nebraska focusing on new technologies to improve the production and utilization of millet and sorghum.

Regional Agricultural Trade Development Program (RATES): A five year program to identify and address logistical and policy issues negatively affecting cross border trade in key commodities.

Peace Corps Tanzania: Planning to begin an agribusiness program in 2004. This program is envisioned to have 50 Volunteers, initially focused on the horticulture, livestock and tree crops subsectors. Volunteers would use a subsector methodology and help farmers to build marketing associations.

Peanut CRSP: This CRSP, based at the University of Georgia, focuses on food safety and nutrition, production efficiency, economics, post-harvest technology and training.

Partnership for Food Industry Development (PFID): A partnership between industry and universities to bring state-of-the-art food processing and food safety technologies to developing countries.

Pond Dynamics and Aquaculture CRSP: The goal of this CRSP, which is based at the University of Oregon, is to improve nutrition through aquaculture research. In East and southern Africa, Pond Dynamic operates in South Africa, Kenya, Rwanda and Malawi.

Sustainable Tree Crops Program (STCP): A USAID-funded program to improve the production of cocoa, coffee and cashew. It is based at IITA in Nigeria. In East Africa, Uganda and Ethiopia are participating.

Trade for African Development and Enterprise (TRADE): This initiative will promote regional integration and regional cooperation by strengthening the ability of African countries and businesses to develop their export trade. Regional Hubs for Global Competitiveness will be located at USAID's three regional missions in Ghana, Kenya, and Botswana.

6. Other analyses of the agricultural sector

The following list serves as a bibliography of the main documents used in this study. Those in **bold face** were the most useful and comprehensive. Some comments on the document follow the reference. All are available on-line, from DAI's library, or in USAID's document collection.

2020 Vision Network for East Africa, Country Note for Tanzania, IFPRI, 1998 (A useful strategy piece, but somewhat out-of-date)

A Brief Appraisal of Agricultural in Tanzania – Options for USAID/Tanzania, 2002

Agricultural Sector Council – USAID Agricultural Sector Think Piece, USAID Washington, 2001

Assessment of the Situation and Development Prospects for the Cashew Nut Sector, World Trade Organization, 2002

Associations Advisory Consultancy, DAI PESA, 2003, (Information on farmers' associations in Mbeya)

Comparative Study of Three Community Seed Supply Strategies in Tanzania, ICRISAT, 2002, www.icrisat.org/web/uploads/presentations/07032003173111J113.pdf (A good summary of the seed sector in Tanzania)

Cut-Flower Industry in Tanzania, Working Paper WP 152, International Labour Organization, 2000

The Effect of Social Capital on Fertilizer Adoption: Evidence from rural Tanzania, Journal of African Economics, 2002, www.csae.ox.ac.uk/conferences/2002-UPaGiSSA/papers/lsham-csae2002.pdf

The End of Small-holder Farming?, University of Dar es Salaam, 2000, www.bij.hosting.kun.nl/iaup/esap/publications/dar/smallhold.php

**Export Winners, International Trade Centre, 2003, www.intracen.org
(Concise system for comparing export crops)**

Final report on Crop and Food Studies – Traditional export crops, NEI, 1999

Fertilizer Consumption Trends in Sub-Saharan Africa, Michigan State University, 2003, www.aec.msu.edu/agecon/fs2/zambia/polsyn/number69.pdf (Data on fertilizer use)

Global Cassava Strategy, Cassava production and Utilization in Tanzania, IFAD, FAO, IDRC, 2000, www.globalcassavastrategy.com/Africa

Household budget Survey 2000/2001, National Bureau of Statistics (The most up-to-date data at household level and part of the baseline for the Poverty Reduction Strategy)

Integrated Labour Force Survey 2000/01, National Bureau of Statistics (The most up-to-date data on the labor force and part of the baseline for the Poverty Reduction Strategy)

Medium-term Prospects for Agricultural Commodities – Projections to the year 2005

Path Forward with Trade – Summary report on findings and recommendations, USAID Tanzania, 2003

Peasant Cotton Cultivation and Marketing Behavior in Tanzania, Danish Institute for International Studies, 1998, www.cdr.dk/working_papers/wp-98-16.htm

Potatoes – Reaching the Full Potential of Sweet Potatoes in East Africa, Natural Resources Institute, 2002, www.new-agri.co.uk/focuson/focuson5.htm

Reforming Agricultural Research Funding in Tanzania, Abt Associates, 2001 www.abtassoc.com/reports/2001230338115_12891.pdf (A complete summary of the agricultural research situation, including privatization)

Review of the PRS Process in Tanzania, DANIDA, 2001

www.poverty.worldbank.org/files/9537_danish4.pdf (A good summary of the PRS process and the problems that have been encountered)

Status of Organic Agriculture in Tanzania, Government of Tanzania, 2002,

www.agriculture.go.tz/MAFS%20services/PHS/ORGANIC%20AGRICULTURE%20IN%20TANZANIA.htm (A short summary of organic production activities)

Strategies for market orientation of Small-scale Milk Producers and Their Organizations, 1995, FAO, www.fao.org/docrep/x5661e00htm#Contents

Subsector Studies on Rice, Oranges, Maize, Horticulture Cotton and Cashews, 1999 to 2003, DAI PESA and Technoserve (Good data on these sectors, and all but two are quite recent)

Supply Study on Tanzania's Exotic Food and Beverages, The Board of External Trade, 2000, www.intracen.org/iatp/surveys/exotic/exottan.pdf

Tanzania Agriculture at the turn of the Century – Leader or follower of growth, World Bank and IFPRI, 2001 (The best background on the agricultural sector of the economy, but two years out-of-date)

Tanzanian Agricultural Exports – Challenges and constraints in a global environment, World Bank, 2002 (The best analysis of historical trends and prospects for the main export crops)

Tanzania at the Turn of the Century – From reform to sustained growth, World Bank, 2001 (The best background on the Tanzanian economy in general, but two years out-of-date)

Tanzania Child Labour in Commercial Agriculture – Tobacco a rapid assessment, International Labour Organization, 2001, www.ilo.org/public/English/standards/ipecc/simpoc/Tanzania/ra/tobacco.pdf

Tanzania Investor's Roadmap, Third Edition, DAI PESA (A complete, up-to-date, summary of the investor climate, with an extensive section on agriculture)

Tanzania's Forgotten Farmers – Sorghum Production, 1999, www.grain.org/publications/dec992-en.cfm

Zambian Cotton in a Regional Context, Michigan State University, 2003, www.aec.msu.edu/agecon/fs2/zambia/polsyn7zambia.pdf (A good comparison of regional competitiveness in the cotton sector, including Tanzania)

7. Implications for USAID Tanzania

The focus that USAID has chosen on producer organizations addresses many of the constraints facing small-scale farmers in Tanzania. Key attributes of producer organizations are:

- They are self-selected, and managed by the members. This should help to avoid some of the management and transparency issues that brought down the cooperative unions.
- They focus on crop marketing, they constraint mentioned most often by farmers.
- Because they bring farmers together, associations are a cost-effective way to disseminate information
- Producer organizations can market both food and cash crops. By providing the members with business skills, the organizations can evaluate and select the best business ventures. By not focusing on a single commodity, associations can adapt to changing conditions.
- Associations are one way to address the low quality of extension services. Typically, the associations provide their own grass roots extension by appointing one member as the focal point for extension services from outside the association. These “extension animators” can link into better quality service at district level, from NGOs or better trained Government staff.
- Associations can also be a way to increase availability of inputs, since many will opt to sell inputs as a business activity.
- Another big problem with input supply is that agribusinesses are unwilling to advance inputs if they aren’t going to get the crop back. The problem of “side selling” is difficult, but a key part of training for associations is the importance of honoring contracts and building long term relationships with buyers.
- In other countries, associations have been known to repair feeder roads leading to their warehouses, at their own initiative. Although this is not a complete answer to problems with rural infrastructure, it could be a start.
- Associations facilitate the delivery of financial services in rural areas. Their goal is to run profitable businesses, and they are trained to do this, so they may be more “bankable” than others in rural areas. By bringing farmers together, the provision of micro-finance services can be more efficient.

- There are some local organizations working with producer organizations (FAIDA and MVIWATA), but neither is covering a large geographic area or has a comprehensive approach.

The program can also select some interventions that will directly support the associations and make them more profitable. These could include:

- Work with associations, district government and national Government to insure that new policies reducing crop cesses are implemented. This will directly improve the bottom line of an association trying to market crops across districts.
- If the system of crop cesses becomes more rational, farmers and buyers will have less incentive to create huge bags. Standard bag sizes and weights will directly facilitate crop marketing by associations.
- A good market information system, with accurate up-to-date information will be critical if associations are going to make profitable business decisions.

Another intervention that could have a big impact on many small-scale farmers is the introduction of conservation farming. The Government, SUA and several local NGOs are introducing these ideas, but it is not being done in a serious way. This technology has many advantages for small-scale farmers and can link in well to producer organizations.

- Current maize yields are 1.4 tons per hectare. As the section on food security shows, farmers producing at this level are barely food secure. If farmers are struggling to produce enough to eat, they will be unable to allocate more land and labor to cash crops.
- Conservation farming can raise maize yields to two tons per hectare, using the technology (hand hoe) and inputs farmers have now. With small amounts of fertilizer and improved seed, farmers in Zambia are getting up to 6 tons per hectare. CLUSA can provide information and research results from their program in Zambia. www.conservationfarming.org, a Zambian NGO, is a good place to learn about the technology. There is also information on the FAO web site and elsewhere on the Internet.
- Conservation farming works best with farmers using hand hoes, which suits 75% of Tanzania's farmers. A plow attachment called a "ripper" allows the concept to be used by farmers with animal traction, but this requires the purchase of a new piece of equipment (a narrow blade for cutting a trench in the soil). This attachment does not seem to be currently available in Tanzania.
- The basic idea costs no money, only labor on the farmers' part. After the first year, the labor requirement actually becomes less at planting time, although is balanced by greater labor needed for weeding.

- Because farmers create permanent planting stations, or “pot holes”, in succeeding years they can plant earlier because there is no land preparation. This helps farmers make the best use of limited rain fall, as many parts of Tanzania experienced last year. The pot holes also concentrate soil moisture around the plant roots.
- This is an “off-the-shelf” technology that has been proven in Zimbabwe, Zambia, Malawi and Mozambique under many different climatic conditions. Optimum plant numbers and techniques have been developed for maize, beans, sunflower and groundnuts, all of which are important crops in Tanzania.
- The main problem with conservation farming is that it requires strong extension, at least during the first years. In Tanzania, extension could be provided through a two-pronged approach: training Government extensionists and extension animators at the association level.

If members of associations began implementing conservation farming techniques, they will act as a demonstration for other farmers in the area, spreading the technology.

Annex 1: Proposed economic growth results framework

Annex 2: Data on GDP share for a variety of crops

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Maize	152,900	154,627	165,111	170,726	176,492	164,626	171,370	167,943	205,266	211,408
Paddy rice	50,936	51,512	55,005	56,875	58,796	61,803	67,885	73,316	79,265	84,837
Bananas	27,676	28,451	29,248	30,066	30,908	31,774	32,664	32,815	51,920	54,672
Beans	35,351	35,751	38,175	39,473	40,806	42,890	44,091	43,208	44,679	47,092
Millet/Sorghum	28,941	29,268	31,253	32,315	33,407	35,116	37,157	36,414	34,430	36,496
Cassava	28,846	29,172	31,149	32,206	33,297	35,215	37,605	38,448	34,688	35,387
Vegetables	21,290	23,558	23,575	24,081	24,551	26,774	25,856	28,882	26,238	27,026
Sweet potatoes	10,447	10,740	11,040	11,349	11,667	11,994	12,330	12,391	19,462	20,825
Tomatoes	10,289	11,388	11,394	11,638	11,258	13,364	12,906	14,849	19,283	20,248
Fruits	11,146	12,333	12,342	12,607	14,911	17,558	16,956	17,369	18,348	18,991
Groundnuts	15,681	17,352	17,365	17,737	17,107	20,406	19,706	22,672	18,356	18,980
Tobacco	6,388	5,512	6,914	8,419	12,552	9,270	13,133	13,383	11,509	14,372
Cotton	10,218	8,630	15,258	17,398	13,878	9,251	11,046	11,256	11,819	12,289
Cashew nuts	5,293	6,192	9,018	11,001	8,480	12,518	14,806	15,087	12,787	10,499
Coffee	11,134	6,492	7,055	10,217	8,030	5,981	6,730	9,405	7,976	8,200
Tea	3,878	4,096	4,712	3,895	3,637	4,822	4,840	4,932	3,129	3,238

Annex 3: Historical production of the major food and cash crops

Maize production ('000 tons)							
	'94/'95	'95/'96	'96/'97	'97/'98	'98/'99	'99/'00	'00/'01
Arusha	172.2	169.9	14.3	362.9	213.8	42	177.5
Coast	6.4	1.9	14.9	37.6	30.8	44.2	40.6
Dodoma	139.5	92.3	33.4	71.3	28.9	40.8	94.6
Iringa	266	318	298.1	483.5	373.7	285.3	315.5
Kagera	29.9	95.3	46.3	81.3	65.3	72.2	103.6
Kigoma	38.5	76.4	70.7	53.3	119.9	97	129.4
Kilimanjaro	125.7	99.4	36.6	141.3	181.3	97.7	159.2
Lindi	26.8	56.7	56.7	63.3	66.2	76.1	72.6
Mara	105.8	67.3	39.6	36.1	68.1	57.6	95
Mbeya	315.9	218.1	214.8	198.2	235	189.2	234.1
Morogoro	163.8	110	28.7	146	96.6	89.2	162.9
Mtwara	48.8	40.1	39.1	40.7	39.8	42.2	30.6
Mwanza	182.7	226.9	92.4	109.6	129.4	131.5	152.7
Rukwa	136.4	204.6	197.1	164.1	203.7	180.7	224.5
Ruvuma	202.6	212.7	211.8	165.7	199.8	155	162.5
Shinyanga	479.3	332	243.6	269.1	103.8	169.4	201
Singida	121.9	88.7	40.7	54.6	32.9	29.1	61.7
Tabora	186	139.5	61.7	104.1	103.8	101.8	121
Tanga	126	98.4	90.7	102	158.9	108.6	154.5
Dar							4.6
	2,874	2,648	1,831	2,685	2,452	2,010	2,698
Cassava production ('000 tons)							
	'94/'95	'95/'96	'96/'97	'97/'98	'98/'99	'99/'00	'00/'01
Arusha	0.2	0.2	0.2	5.7	4.6	15.4	30.5
Coast/DSM	103.2	107.1	107.5	128.6	169.7	256.7	215
Dodoma	13.1	13.3	12.2	15.8	55.4	41.2	74.2
Iringa	5.4	5.7	5.1	23	7.8	13.7	17.8
Kagera	87.3	89.4	86	260.7	137.3	113	170.7
Kigoma	48.4	48.3	49	51.8	67.7	111.2	29.1
Kilimanjaro	14.6	14.6	14.1	17.4	12	12.1	18.8
Lindi	92.4	93.3	88.5	119.3	143.1	116.8	166.6
Mara	69.3	71.1	68.7	25.7	68.2	117.4	75.6
Mbeya	22.5	22.7	21.7	20.7	20.6	25.9	24.7
Morogoro	77.3	81	78.4	21	67	81	87.6
Mtwara	216.2	210.2	210.2	292.4	322.2	238	257.1
Mwanza	158	161.2	153	223.5	108.3	92.6	177.1
Rukwa	107.9	104.9	101.5	82.3	118.5	101	43.2
Ruvuma	85.3	86.7	86.7	120.9	99.4	79.9	37.1
Shinyanga	99.5	92.2	83.8	137.6	111.1	69.1	65.5
Singida	58.2	56	30.4	35.2	34.8	48.7	32.8
Tabora	78.3	81.1	76.6	73.6	73.3	71.9	53.7
Tanga	155.1	159.4	152.8	103.2	174.2	175.1	121.9

Dar							22.7
	1,492	1,498	1,426	1,758	1,795	1,781	1,722

Sweet potato production ('000 tons)

	'94/'95	'95/'96	'96/'97	'97/'98	'98/'99	'99/'00	'00/'01
Arusha	3.5	7	3.1	8.2	8.3	50.7	50.8
Coast/DSM	2	2	2.1	4.2	4.4	20.7	8.1
Dodoma	3.7	3.6	3.3	3.4	15.5	29.8	48.7
Iringa	20.7	20.6	20	39.5	37.9	72.2	95
Kagera	34.4	9.7	11.8	22.9	24	27.3	32.7
Kigoma	1.7	1.8	2.7	9.6	7.8	8.7	17.9
Kilimanjaro					3.9	14.9	21.8
Mara	20.3	20.9	26.8	20.7	41.4	48.8	50.3
Mbeya	32.9	31	35.7	40.6	50.3	89.8	100.6
Morogoro	2.8	2.9	4.3	3	4.9	29.6	31.8
Mtwara	44.4	43.4	25	59.9	44.6	53.8	37.4
Mwanza	141.9	141.3	217.7	125.4	126.5	92.9	141.7
Rukwa	4	4	3.8	8.1	9.4	12.5	11.7
Ruvuma	16.1	16.1	16.1	84	34.5	31.4	63.8
Shinyanga	86.1	79.2	76.4	175	115.5	140.2	105.9
Singida	10.6	10.3	10.1	10.4	10.2	27.2	26.2
Tabora	22.4	23.1	17.2	20.8	28.5	42	38.4
Tanga	1.3	1.2	1.6	2.2	2.2	5.5	62
Dar							5.5
	449	418	478	638	570	798	950

Banana production ('000 tons)							
	'94/'95	'95/'96	'96/'97	'97/'98	'98/'99	'99/'00	'00/'01
Arusha	30.1	30	27.1	25	27.8	46.7	48.4
Coast/DSM	2.4	2.4	2.4	5.8	10	18.7	7.3
Dodoma	1.1	1.1	1.1	0.3	4.2	3.3	3.2
Iringa	15.2	14.8	14.4	12.6	13.4	13.6	16.2
Kagera	151.7	144.9	141.6	276.4	262.4	242.5	233.5
Kigoma	31.6	31.2	32	26.7	37.8	35.1	74.2
Kilimanjaro	220.9	220.6	224.5	177.7	179.6	108.9	92.1
Mara	18.7	18.8	18.6	75.7	25.5	27.5	62.7
Mbeya	89.6	89.6	89.5	105.8	123.6	106.3	77.1
Morogoro	7.9	6.3	6.3	2	5	31.3	26.5
Mwanza	4.8	5	4.6	5.8	6.8	5.1	7.1
Rukwa	1.2	1.2	0.9	1.4	1.7	1.8	1.5
Ruvuma	37.5	37	36	78.9	29.3	27.1	54.9
Shinyanga					0.8	0.9	0.3
Tanga	38.2	38	5.1	40.5	23.7	33.9	46.4
Dar							
	650.9	640.9	604.1	834.6	751.6	702.7	751.4

Sorghum production (000' tons)							
	'94/'95	'95/'96	'96/'97	'97/'98	'98/'99	'99/'00	'00/'01
Arusha	12	4.4	1.6	32.1	14.6	7.5	18.4
Coast	9.6	9.9	7.6	22	17.2	19.7	24.7
Dodoma	79.1	120.2	59.3	93.2	80.6	77.4	97.9
Iringa	17.7	27.2	23.9	6.3	16.9	38.9	43
Kagera	32.3	30.6	20.5	28	21.4	17.3	12.4
Kigoma	11.1	11.2	10.6	10	16.9	23.9	15.6
Kilimanjaro	2.8	2.8	2.2	3.1	7.4	3.6	7.4
Lindi	33.6	25.8	21.3	27.2	28.1	34.4	22.1
Mara	34.3	39.8	21.6	64.3	42.6	65	54.2
Mbeya	17.9	15.2	10.4	3.6	8.3	15.4	28.9
Morogoro	50.6	54.6	43.7	0.7	30.5	31.5	22.1
Mtwara	39.7	31.7	13.8	23.7	19.7	19.7	39.9
Mwanza	179.7	166.7	118.3	27.3	73.7	50.6	78.7
Rukwa	14.6	14.5	13.3	4.7	9.4	8.3	10.4
Ruvuma	6.4	4.4	6.3	2.1	5.1	2.8	3.7
Shinyanga	167.6	151.8	85.6	113.1	88.6	84.5	73.6
Singida	66.2	74.2	45	58	39.4	36.1	75.1
Tabora	59.2	64.4	31.5	29.7	36.1	40.2	23.4
Tanga	4.4	2	1.8	14.1	4.6	21.4	40.2
Dar							
	838.8	851.4	538.3	563.2	561.1	598.2	691.7

Pulse production (000' tons)							
	'94/'95	'95/'96	'96/'97	'97/'98	'98/'99	'99/'00	'00/'01
Arusha	38.8	38.9	38.3	79.6	36.2	62.5	49
Coast	2.3	2.1	1.9	9.6	26.5	57.5	34
Dodoma	5.7	5.7	5.1	17.6	37	37	21.6
Iringa	56.8	58.3	56.3	54.5	54.3	59.5	29.8
Kagera	68.2	64.9	62.8	94.5	67	116.8	45.4
Kigoma	32.4	30.8	30.4	30.2	37.4	37.8	33.2
Kilimanjaro	17	16.7	16.5	39.1	10.6	56.4	33.1
Lindi				15.8	10.1	10.1	7.1
Mara	5.5	5.7	5.4	12	12.6	16.4	17.1
Mbeya	34.2	32.7	31.7	34.4	28	38.9	27.4
Morogoro	20.2	20.8	18.9	1.6	22	25.4	17.9
Mtwara	35.1	36	33.7	34.2	35.7	35.7	14.6
Mwanza	47.7	47.5	41.3	53.1	43.9	42.9	97.1
Rukwa	40.5	40.4	40.1	57	42.2	42.5	39
Ruvuma	27.9	28.8	27.9	32	33	33	24.5
Shinyanga	66	60.9	54.6	63.7	60.7	60.7	66
Singida	6.5	6.4	5.9	14.3	13	26.7	33.7
Tabora	20.2	20.2	19.9	26.8	24	24	14.1
Tanga	12.4	12.3	11	30.4	25	31.5	29.5
Dar							7.6
	537.4	529.1	501.7	700.4	619.2	815.3	641.7

Paddy rice production (000' tons)

	94/'95	'95/'96	'96/'97	'97/98	'98/'99	'99/'00	'00/'01
Arusha	10.7	11.5	10.9	21.3	12.8	12.2	9.2
Coast/DSM	3.3	23.8	23.8	57.6	49.8	60.2	
Coast							14.2
Dar							2.6
Dodoma	1.6	1.6	1.6	1.4	1.7	0.5	6.6
Iringa	1.4	1.4	1.4	9.5	4	12.6	5.6
Kagera	4.4	1.3	1.1	1.2	1.7	2.6	1.4
Kigoma	0.4	2.7	2.6	3.1	10	8.2	1.1
Kilimanjaro	23.2	19.6	19.7	20.8	26.5	21.4	6.2
Lindi	12.3	14.7	14	10.9	14	15.2	5.6
Mara	12.7	0	0.3	2.9	0.5	1.7	0.8
Mbeya	102.2	162.2	113.9	169.2	175.5	189.8	53.2
Morogoro	78.1	122.6	121.4	126.3	129.5	103.2	37.8
Mtwara	20.3	25.4	25.4	23.8	34.2	26	19.3
Mwanza	121.8	95.5	58.3	164.2	113	109.2	34.8
Rukwa	7.9	52	49.1	90	54.9	67.2	18.5
Ruvuma	26.7	28.3	10.9	33.1	25.8	29.8	12.2
Shinyanga	75.8	82.8	54.8	21.4	39.5	44.6	53.3
Singida	57.3	78.3	5.3	8.4	7.4	2.9	10.1
Tabora	57.3	78.3	31.3	50.2	64.2	44.5	21
Tanga	5.2	4.8	3.9	33.9	13.4	30.5	10
	622.6	806.8	549.7	849.2	778.4	782.3	323.5

Millet production (000' tons)

	94/'95	'95/'96	'96/'97	'97/98	'98/'99	'99/'00	'00/'01
Arusha	0	4.4	3.6	5.7	5.1	2.8	7.1
Dodoma	138.1	119.6	109.5	71.6	20	53.7	18.1
Iringa	1.6	1.7	1.4	4.7	1.8	1.8	2.2
Kagera	0.6	1.2	0.4	0.2	0.6	0.5	0.5
Kigoma	1.8	1.8	1.7	2.1	2.5	3.1	5
Kilimanjaro	2.1	220.6	2.1	4.1	2.8	1	5
Mara	16.9	16.7	14.8	3.8	18.6	43.9	24.1
Mbeya	32.9	17.4	17.2	21.6	17.4	17.3	26.5
Morogoro	0.4	0	0.4	0.9	0.4	0.8	1.4
Mtwara	0.5	0.6	0.6	0.5	0.6	0.4	3.2
Mwanza	5.9	12.6	11.1	11.8	9.8	8.3	16.8
Rukwa	60.5	60.1	95.2	12.4	44.6	44.1	40.6
Ruvuma	3.2	3.3	3.3	4.6	4.1	3.8	4
Shinyanga	15.7	53.9	46.3	29	23.5	16.5	24.5
Singida	51.4	57	37.3	57.2	32.6	11	19
Tabora	10.4	14.1	2.1	5.7	9.9	9.9	8.5
	342	585	347	235.9	194.3	218.9	206.5

Cotton production (000' tons)

	'94/'95	'95/'96	'96/'97	'97/'98	'98/'99	'99/'00	'00/'01
Mwanza	53.5	54.2	82.6	62.8	35.8	31.6	41.4
Shinyanga	38	103.9	111.3	112.5	50.7	57.5	69.9
Mara	17.4	32	27	7.6	6.1	2.8	4.3
Kagera	3.2	7.2	6.8	3.8	3.4	0.4	2.1
Kigoma	0.2	0.3	0.2	0.05	0.06	0.02	0
Morogoro	0.8	1.5	2.4	1	0.3	0.2	0.04
Mbeya	5.5	5.8	7.4	3.2	5.1	0.2	
Tabora	5.2	12.3	11.9	9.9	3.5	2.9	5.7
Singida	0.8	2.8	1.6	1.5	0.4	4.8	
Iringa	0.8	0.02	0		0.09		0.03
Coast	0.5	0.4	0.05	0.03	0.05	0.2	0
Tanga	0.24	0.41	0.4	0.3	0.09	0.02	0.09
Arusha	0.03	0.005	0.08	0.06	0.2	0.06	0
Kilimanjaro	0.2	0.4	0.06	0.02	0.02	0.03	0
	126.37	221.235	251.79	202.76	105.81	100.73	123.56

Coffee production (000 tons)

	94/'95	'95/'96	'96/'97	'97/'98	'98/'99	'99/'00
Mwanza						
Shinyanga						
Mara	0.44	0.83	0.84	0.98	0.83	2.09
Kagera	15.03	11.12	13.02	15.74	18.3	14.44
Kigoma	0.42	0.66	0.22	0.69	0.51	0.72
Morogoro						
Mbeya	7.61	8.13	5.85	8.72	9.31	10.15
Ruvuma	7.45	10.28	6.12	5.97	9.49	10.15
Tabora						
Singida						
Iringa						
Coast						
Tanga			0.73	0.21	0.26	0.27
Arusha	1.85	2.77	3.99	1.11	1.77	2.16
Kilimanjaro	7.86	16.47	10.93	3.65	4.46	7.84
Estates	1.69	1.96	1.82	0.78	1.57	3.1
	42.35	52.22	43.52	37.85	46.5	50.92
	1995	1996	1997	1998	1999	2000

Wheat production (000' tons)

	94/'95	'95/'96	'96/'97	'97/98	'98/'99	'99/'00	'00/'01
Arusha	57.5	65.5	61.2	56.3	59.5	14.1	45.1
Iringa	14.8	15.4	14.4	41.8	16.6	12.5	15.12
Kilimanjaro	1.7	1.7	1.7	11.3	4.3	4.5	9.8
Mbeya	0.5	0.5	0.5	0.5	0.4	0.4	1.2
Rukwa	0.8	0.5	0.7	0.7	1.3	1.1	0.8
Tanga				0.9	0.2	0.1	0.1
	75.3	83.6	78.5	111.5	82.3	32.7	72.12
	1995	1996	1997	1998	1999	2000	2001

Tea (000 tons)

	94/'95	'95/'96	'96/'97	'97/98	'98/'99	'99/'00	'00/'01
Mbeya	4.2	2.8	2.3	2.8	2.1	2.4	2.2
Iringa	13.5	11.3	12.7	17	14.6	16.3	17.6
Tanga	7.1	6	4.6	6.2	5	5.2	6.2
Kagera	0.7	0.4	,2	0.2	0.2	0.25	0.3
	25.5	20.5	19.6	26.2	21.9	24.15	26.3

Cashew production (000 tons)

	94/'95	'95/'96	'96/'97	'97/98	'98/'99	'99/'00	'00/'01
Mtwara	27.5	49.1	29.6	59.4			
Lindi	9.1	11.6	9.2	14.7			
Coast	12.2	6.9	5	2.2			
Tanga	0.5	1	2.4	0.1			
Ruvuma	6.6	8	5.1	9.2			
Dar	5.9	1.6	7.1	7.3			
Others	1.6	3.6	7	0.1			
	63.4	81.8	65.4	93	103.3	121.2	122

Annex 4 -- Agricultural companies in Tanzania (Large, medium and small)

Large companies (Turnover of more than \$5 million)	Activities and products	Annual turnover or other indication of company size
Agro Processing and Allied Products Ltd Shekilango Road, Dar es Salaam, 022 2461372	Miller of wheat flour Nyota, Safi and Shibe wheat flour and Mo Sembe maize flour	\$10 million (est.) 45,000 tons of wheat flour in 2001
Brooke Bond Tea Mufindi	Grower and packer of tea	\$13 million (est.) 8,840 tons or 40% of output 7,000 employees
Consolidated Investment Enterprise Moshi	Grower and manufacturer of sugar Owner of Tanganika Planting Company	\$20 million (est.) 55,000 tons in 2003
Coast Millers Nelson Mandela Road, Dar es Salaam, 022 2400349	Miller of wheat and maize Nyati flour	\$15 million (est.) 60,000 tons of wheat flour in 2001
Dimon Morogoro Tobacco Processors Kingolwira, Morogoro, 023 3730	Buyer and processor of tobacco	\$15 million Provided \$2.5 million of inputs to 17,000 farmers Plant capacity 30,000 tons
Export and Trading Company (Mahesh Patel) Dar es Salaam, 022 2124473/5	Exporters of wheat, maize, sorghum, rice and beans Suppliers to WFP and ICRC	\$25 million 100 employees
Fidahusseini and Company Ltd. (Mustak Fazal) Vingunguti, Dar es Salaam, 022 2844510	Exporter of beeswax, cassava products, cow peas, green mung, pigeon pea, cardamom, cocoa, ground nuts, cotton seed cake, cashew, copra, castor, and sunflower	\$6 million 300 employees
Interchick -- Tanbreed Mbezi Industrial Area, Dar es Salaam, 022 2627160	Producer of chicks and feeds	\$6 million (est.) Based on IFC sales data 540 employees
Illovo Sugar Kidatu. 023 262 6011	Estate grower and buyer of sugar cane from outgrowers Manufacturer of sugar Kilombera sugar	\$36 million (est.) 98,000 tons of sugar in 2003
Mohammed Enterprises Ltd. (Mohammed Dewji) Textile House, Morogoro Road, Dar es Salaam, 022 18930	Exporter of bees wax, cashew, castor, cocoa, coffee, green mung, ground nuts, gum Arabic, pigeon peas, sesame, sunflower, yellow gram Manufacturers of cooking oil, juices, soaps, maize and wheat flour, sisal bags, sugar	\$70 million (est.) Taxes = \$3 million per year 3,500 employees

Large companies (Turnover of more than \$5 million)	Activities and products	Annual turnover or other indication of company size
Murzah Oil mill Dar es Salaam, 051 843288/9	Manufacturer of sunflower and palm oil	\$27 million 300 employees
Olam (T) (Multi-national Indian company)	Buyer and exporter of cotton, coffee, cocoa, sesame and cashew	
Said Salim Bakhresa and Bakhresa Food Products (Abubakar Bakresa) Kipawa Industrial Area, Dar es Salaam, 022 2842503	Manufacturers of Azam Food products including maize and wheat flours, ice cream, milk and juices Manufacturers of poly propylene bags	\$40 million 2,400 employees 135,382 tons of wheat flour in 2001
Shoprite Supermarkets and Freshmark Four locations in Dar and one in Arusha	Buyer of fresh fruits and vegetables	\$8 million (est.) Based on average per store turnover of \$4 million
Sumaria Group (Jayesh Shah) Dar es Salaam, Tanga, Morogoro, Bulambu	Manufacturer of soaps and food products, cotton ginner Sabuni and Foma Detergent, Royal and Ole Dairy, Sumagro, S&C Ginning	\$50 million (est.) 3,000 employees
Sunflag (T) Ltd. Arusha, 027 2507270	Manufacturer of textiles	\$18 million 2,300 employees
Tanzania Breweries Ltd, Tanzania Malting Company, Tanzania Distilleries Ltd., Darbrew Ltd. (Owned by South African Breweries) Dar es Salaam, Arusha and Mwanza, 022 2182779	Brewer and distiller Safari, Kilimanjaro, Ndovu and Castle beer Konyagi liquor and Darbrew sorghum beer	\$167 million 2,000 employees 360 million bottles of beer per year
Tanzania Cigarette Tobacco Company (William Schultz) Nyerere Road, Dar es Salaam, 022 2860150	Cigarette manufacturers and distributors	\$99 million in 2002
Tanzania Sugar Industries Co. Ltd. (Owned by firm from Mauritius) Mtibwa and Kagera Estates, Morogoro, 023 262001	Grower, buyer and manufacturer of sugar	\$14 million (est.) 37,000 tons in 2003
Tanzania Tea Packers (Tapeta) (51% owned by CDC)	Grower, buyer and packer of tea Chai Bora and Kibena fair-trade tea	\$5 million 650 employees, 14,000 outgrowers on 3,500 hectares 3,000 tons production

Medium-sized companies (Turnover of \$1 to \$5 million)	Activities and products	Annual turnover or other indication of size
Abbasi Exports Ltd. Mtwara and Dar es Salaam, 023 2333589	Exporters of cashew and sesame	
Abri S.K. Iringa, 026 2702845	Buyer of maize and other crops in Iringa Region	
Amboni Spinning Mills (Wigglesworth Fibers, London) Tanga, 053 43590	Grower of sisal and manufacturer of sisal fibers	\$2 million (est) 3,800 tons in 2001
Alliance Ginneries Mwanza, 254 491790 (Nairobi)	Cotton ginner	10,000 bales per month
Arusha Cutting Arusha, 027 501990	Grower and exporter of cut flowers	\$1 million 2.8 hectares
B. Salum Business Enterprises Dar es Salaam	Exporter and importer of rice	
Bagco Ltd.	Manufacturer of sisal bags	1.6 million bags in 2001
Balton Tanzania Ltd. CRDB Building, Dar es Salaam and Arusha, 022 2123829	Importer and retailer of inputs including fertilizers and chemicals. Agents for Bayer, Cyanamid, Monsanto, irrigation equipment	
Ben Es -Haq Ltd. Mikocheni Industrial Area, Dar es Salaam, 022 72767	Millers of maize and wheat Quality Flour, Princess brand	
Bernard Katamba Enterprises Shinyanga, 028 2762616	Miller of maize and rice	\$1.3 million
Bibiti Oil Ltd. Mwanza, 0742 550550	Cotton seed oil producer and exporter of cotton lint	
Birchand Oil Mill Ltd. Mwanza, 028 2570259	Manufacturer of sunflower oil and high energy biscuits Miller of wheat, maize and rice	\$3 million
Blanket and Textile Manufacturers Dar es Salaam, 022 2863563	Blanket and textile manufacturers	\$3.3 million
Bwana Oga (M.T. Sheba) Kilwa, 525 2001/33	Exporter of peas, nuts, copra, sorghum, millet, maize, cassava, sesame	
CRDB Bank Dar es Salaam, 022 2117441	Financial services Support to SACCOS network	\$4.8 million loaned to SACCOS

Medium-sized companies (Turnover of \$1 to \$5 million)	Activities and products	Annual turnover or other indication of size
Dabaga Vegetable and Fruit Canning Company Iringa, 022 2121960	Manufacturer of sauces and jams. Canned organic pineapple. Dabaga food products	
Del Monte (T) P.O. Box 8877 Dar es Salaam	Fruit production and canning	
Dodoma Transport (DTA) Ltd. Babati	Exporter of pigeon pea, buyer and transporter of maize	
Eddie Company (Eddy Mohammed) Dar es Salaam, 2170676	Exporter of beans spices, maize	
East African Seed Company Azimo Street, Arusha, 027 2502756	Importer of vegetable seeds from Kenya	
Evesa (T) Arusha	Exporter of paprika oleoresin A Spanish company	
Farm Parts Ltd Sikukuu Street, Dar es Salaam, 022 2182571	Importer of tractors and farm implements	
Fresho Investment Company (Freddy Shoo) Shinyanga, 028 2762061	Manufacturer of cotton seed oil and water containers	\$3.6 million 120 employees
GMM Company Ltd. Mwanza, Dar, 028 2502344, 022 218285	Cotton ginner	
H & A Enterprises (A. Matinde) Dar, 2667 885	Exporter of prawns, beans, groundnuts, spices, millet, wheat and honey	
H A Yahaya Enterprises 525 2001	Exporter of seafood, coconuts, nuts, cowpeas, sorghum	
Incar Tanzania Ltd Dar es Salaam	Importer of tractors	
International Food Packers Ltd Tanga, 027 2642566	Tea grower, buyer and packer Tanzania Pride and Amani Golden Tea	120,000 kilos of tea in 2001
Karibu Blanket and Textile Mill Chang'ombe	Manufacturer of blankets and textiles	
Katani Ltd. (Owned by Highland Estate) Tasma Road, Tanga, 027 2644401	Manufacturer of sisal twine, ropes, yarn, carpet	

Medium-sized companies (Turnover of \$1 to \$5 million)	Activities and products	Annual turnover or other indication of size
Kenmillers (Andrew Mollet) Arusha, 0744 270384	Maize miller	\$4.2 million 78 employees
Kijenge Animal Products	Milling and animal feed manufacturer	\$4.5 million
Kiliflora Arusha	Grower and exporter of cut flowers	18 hectares
Kilimanjaro Native Co-operative Union (KNCU) Moshi, 027 2752785	Exporters of mild Arabica coffee. Fair trade links to Equal Exchange	5,250 tons of Arabica traded 135,000 small-scale growers in 93 primary societies
Livembe Enterprises	Exporter of peas, nuts, coconuts	
Lonrho Motors Dar es Salaam, 051 862803, 863439	Importer of tractors	
Mbeya Textile Mill Ltd.	Manufacturer of textiles	9.8 million cubic meters in 2001
Mbinga Coffee Curing Company Mbinga, 025 2640132	Processor and exporter of coffee and other products	
Morogoro Canvas Mill Ltd. Morogoro, 056 3356	Manufacturer of canvas	\$2.1 million (UNIDO)
Moshi Leather Industries	Manufacturer of hides and leather	1.1 million hides
Mufindi Tea Company (Is this part of Brooke Bond, or a separate company?) Mufindi	Tea packers and exporter of fair trade and organic tea Luponde brand organic tea	\$2 million 2,500 employees 1,200 tons of tea
Mwanza Fishing Industries Mwanza, 068 560885	Exporter of Nile perch	
New Musoma Textile Mill Ltd.	Manufacturer of textiles	1.8 million cubic meters in 2001
Nile Perch Fisheries Ltd. Mwanza, 028 2570432	Exporter of Nile perch	

Medium-sized companies (Turnover of \$1 to \$5 million)	Activities and products	Annual turnover or other indication of size
Nyanza Cooperative Union Mwanza, 028 24615	Growers and ginnerers of cotton	15,000 bales per month capacity
Pili Mohammed Iringa	Buyer of maize and beans	
Pollo Italia Nyerere Road, Dar, 022 2843002	Producer of chicks and eggs	3,000 chickens per day capacity
Pop Vriend (T) Ltd. (Coster Huls) Arusha, 027 2544114	Exporter of vegetable, bean and flower seeds A Dutch owned seed company	\$5 million 40 employees
Premium Agro Chem Ltd P.O. Box 2937, Dar es Salaam	Herbicides	
Premier Cashew Industries Dar es Salaam, 2844510	Buyer, processor and exporter of cashews	\$2.5 million (est.) 4,000 tons processed cashew 1,500 employees
Premier Flour Mills Mikocheni Road, Dar, 022 275832	Miller of wheat flour	
Sangijo Rice Millers Kahama, 028 2710809	Maize and rice millers	\$3.6 million 5 employees
Raffia Bags Ltd. Mbezia Beach Industrial Area, Dar es Salaam, 022 2650371	Manufacturer of poly propylene bags	9.6 million bags in 2001
Senter International (T) Arusha	Out-grower scheme, manufacture and export of organic safflower oil	1,000 tons of oil per year 4,000 hectares of safflower contracted in 2002
Serengeti Breweries (previously Associated Breweries?)	Brewer of beer Serengeti	Capacity of 1 million crates per year
SGS Nelson Mandela Road, Dar es Salaam, 022 2132131	Certification and testing of agricultural products	

Medium-sized companies (Turnover of \$1 to \$5 million)	Activities and products	Annual turnover or other indication of size
Songea Tobacco Processing Factory Songea, 025 2600984	Tobacco processor	
Soap and Allied Industries (Zain Bharna) Dar es Salaam, 022 2866198/201	Manufacturer of soap	\$2.5 million 70 employees
Soud's oil mill (Hilal Soud) Shinyanga, 028 2763136	Manufacturer of cotton seed oil	\$1.8 million 90 employees
Tancord Tanga	Grower of sisal and manufacturer of sisal fiber	30,000 tons of fiber in 2001
Tan Perch Mwanza, 028 2561004	Exporter of Nile perch	
Tanga Fresh Ltd. Tanga, 027 2644238	Buyer of milk and manufacturer of dairy products	\$2 million (est.)
Tanganika Farmers Association (Mr. Mallya) Arusha, 027 2503192	Buyer of wheat, maize Producer of seed Retailer of agro-inputs	\$3 million 180 employees
Tanganika Instant Coffee Company Bukoba 022 240352	Manufacturer and exporter of instant coffee	
Tanzania Flowers (FEDHA fund is investor) Arusha	Grower and exporter of roses and other flowers	17 million roses in 2001 600 employees 7.1 hectares
TIP Soap Industries Tanga, 027 2844481	Manufacturer of soap Mbuni, Dew, Gardenia hand soaps	
Tanzania-China Friendship Textile Company	Manufacturer of textiles	9.8 million cubic meters of production
Tanzania Fish Processors Mwanza	Exporter of Nile perch	
Tanzania Package Manufacturers Ltd Dar es Salaam and Morogoro, 022 2115003	Manufacturer of sisal bags	2.4 million bags in 2001

Medium-sized companies (Turnover of \$1 to \$5 million)	Activities and products	Annual turnover or other indication of size
Tommy Dairy Farm Products Morogoro Road, Dar es Salaam, 022 2420355	Producer of milk and yogurt	\$1.2 million (UNIDO)
Vegetable Oils and Related Industries Iringa, 026 2725019	Cotton ginner, manufacturer of oil and margarine	
Vegetable Oil Industries Mwanza, 2500846	Manufacturer of cotton seed oil	\$1 million 150 employees 5,000 tons of oil products in 2001

Small companies (Turnover of less than \$1 million)	Activities and products	Indication of size
A to Z Animal Feeds Kimara on Morogoro Road, Dar es Salaam 022 2420422	Poultry and other animal feeds	
A to Z Textile Mills Arusha, 027 2548888	Textile producer	
Abood Seed Oil Industries Morogoro, 23 2604455	Sunflower oil	
ACF Holdings (AC Faraji) Dar, 2113456	Exporting	
Afrisian Ginning Dar es Salaam, 022 2138781	Exporter of cashews	
Afro Leather Industries India Street, Dar, 2110786	Tannery	
Afro Scan Azikiwe/Samora Avenues, Dar, 2111793	Producers and exporters of plants and herbs for medicinal use	
Agrovision Swahili X Kipapta, Dar es Salaam, 2182546	Commodity purchase and input supply	
Alpha Exports Mtwara, 023 2333162	Exporter of cashews	
ApproTEC Tanzania Arusha, 027 2509844	Retailer of manual irrigation pumps and oil presses	
Arusha Dairy Company Them Road, Arusha, 027 2504260	Dairy product producer	
Arusha Duluti Arusha, 027 2504064	Coffee, fruits and vegetables	
ASAS Dairy Iringa, 026 2725200	Producer of milk, cheese, butter and ghee	
Asia Commodities Dar es Salaam, 022 222123142	Exporter of cashews	
Banana Investments Olorien, Village, Arusha, 027 2506475	Brewers of banana wine	

Small companies (Turnover of less than \$1 million)	Activities and products	Indication of size
Bidii Industries Ltd. Pamba House, Dar es Salaam, 022 2135426	Leather manufacturers	
Biore Tanzania		
Buturi Investments Ltd. Representative of Tamsa Trading RSA Garden Avenue, Pamba House, Dar es Salaam, 022 2126704	Exporters of agricultural products Manufacturers of grain bags	\$600,000
Capital Farmers Development Company Dodoma, 026 2324951	Consulting services	
CMG Investments Mwanza, 028 2503122	Cotton ginning	
Coastal Oil Dar es Salaam, 022 2864344	Cooking oil producer	
Continental Flowers Arusha 027 254 4432	Cut flower exports	
Cubix Trading Mtwara, 023 2334051	Export of cashews	
Daimon Golden Apis Tabora	Exporter of organic honey	
Darsh Industries Ltd. Arusha, 027 2505669	Vegetable processor Red Gold products	\$600,000 100 employees
Dar es Salaam Regional Trading Company Ltd. Plot 191 Nyerere Road, Dar es Salaam, 022 2864745	Importers of fertilizer	
Dashwood Corporation Dar es Salaam, 022 2122941	Exporter of cashews	
DHV Consulting Engineers Dar es Salaam 022 2700901	Consultants in agriculture and forestry	
Digo Enterprises, Swahili X Kipata street, Dar es Salaam, 022 2182546	Retailer of agro-inputs	

Small companies (Turnover of less than \$1 million)	Activities and products	Indication of size
East Africa Line Plot 23 A Mikocheni 022 2780251	Buyer and exporter of coffee	
Euro Impex Dar es Salaam, 0812 781653	Exporter of cashews	
Extrade Commodities 21117529		
Farmbase Itala Boma, Dar, 2861857	Retailer of inputs, seed and veterinary drugs	
Farmchem Ltd. YMCA Building, Dar, 2180909	Retailer of veterinary products	
Farmers Center Ilala, Arusha Street, Dar, 2861173	Retailer of veterinary products and animal feeds	
Food Windows Arusha, 0741 297200	High energy food, millet flour, mango pickles	
Gaki Investment Company Shinyanga, 028 741 650806	Rice miller and manufacturer of sunflower and cotton seed oil	\$482,000 12 employees
Hema Wholesalers Dar es Salaam, 022 2114224	Retailer of inputs for dairy farmers	
Horticultural Farms and Exports	Grower and exporter of cut roses	6 hectares
H.S. Impex Ltd. Mtwara	Export of cashews	
International Dairy Products Arusha, 027 2544267	Buyer and producer of dairy products Serengeti brand of milk, yogurt and cheese	
Iringa Vegetable Oils and Related Industries Iringa, 026 2725019	Manufacturer of cooking oil	5 hectares

Small companies (Turnover of less than \$1 million)	Activities and products	Indication of size
Jambo Oil Mill and Ginneries Ltd. (Salum Khamis) Shinyanga, 028 2762628	Manufacturer of sunflower and cotton seed oil	\$650,000
Kabalo Enterprises Ltd. (Mhoja Nkwabi) Shinyanga, 028 2710217	Millers of rice and maize Manufacturers of sunflower oil	\$500,000
JN&T Kilimanjaro International PPF Tower, Dar es Salaam	Agricultural consulting	
Kidaha Traders	Exporter of grains	
Kimango Farm Enterprises Morogoro	Exporter of organic herbs and spices, dried fruits, lemon grass and chilies	
Kombe Roses	Grower and exporter of cut flowers	5 hectares
La Fleur Enterprises	Grower and exporter of cut roses	
Morogoro Breweries Nkomo Street, Morogoro, 023 2603893	Brewers of fruit and honey beers	
Mount Meru Flowers	Grower and exporter of cut roses	
Musoma Dairy Baruti Industrial Area, Dar, 2620118	Buyer and producer of dairy products Farmer's fresh brands of milk, butter and cheese	
Mini-millers (Dinker Mistry) Mwanza, 028 2551517	Rice, maize and pigeon pea millers	\$475,000 500 tons in 2001
Mwanza Food Industry Mwanza	Rice miller	100 tons in 2001
Kakute Ltd Arusha	Producer of agricultural equipment and soap from Jatropa oil	
Kaswama Mill	Rice miller	500 tons in 2001

Small companies (Turnover of less than \$1 million)	Activities and products	Indication of size
Geita		
Kibaha Education Center Kibaha, 023 2402282	Producer of chicks	
Kimetule Fresh Fruits and Ve getables Supply Tandanti X Sikuku, Dar es Salaam, 022 2180179	Retailer of agricultural commodities and inputs	
Lake Trading Company Mwanza, 028 2551841	Soap manufacturer	35 employees
Lintex (T) Ltd. Mwanza, 068 502564	Cotton ginner	2,880 bales per month
Lushanga Mill Geita	Rice milling	563 tons in 2001
Makella Foods Kimara Korogwe, Dar es Salaam, 022 2420638	Manufacturer of meat products	
Mara Coffee Mwanza, 068 690081	Grower and exporter of coffee	
Mkuza Chicks Ltd. Azikiwe Street, Dar, 2139246	Chicks and feeds	
Milcafe Moshi, 027 2752240	Coffee processors	250 employees
Mount Meru Products Arusha, 027 2503164	Cooking oil, sunflower cake	
Natural Uwemba System for Health Iringa and Switzerland, www.nusag.com	Grower and producer of anti-malarial drugs made from Artemisia ana	
New Northern Creameries Arusha, 027 7457	Producer of milk and other dairy products	
Oceanic Trading Mtwara, 023 2333162	Exporter of cashews	
Onash Exports Ltd. Dar es Salaam, 022 2127882	Exporter of cashews	
Optima Ltd Vikawe, Regent Estates, Dar, 2700690	Buyer and exporter of Moringa products	
Pee Pee Tanzania Ltd	Manufacturer of poly propylene sacks	

Small companies (Turnover of less than \$1 million)	Activities and products	Indication of size
Tanga, 027 2646853		
Promoters and Developers International Maktaba Street, Dar, 2118668	Agricultural consultants for the export of agricultural, wildlife and marine products	
Rajani Industries Ltd. Dar es Salaam, 022 2863643	Cooking oil and animal feed producer	
Royal Sluis Arusha, 027 4214	Importer and retailer of hybrid vegetable seed from Europe	
Sanaa Exports Dar es Salaam, 0741 236665	Exporter of cashews	
Suba agrotrading (M.C. Muya) Arusha 027 2507020	Producer and exporter of planting seed	\$600,000
Sumbu Mill Geita	Rice miller	500 tons in 2001
Sunderji Nani Ltd Morogoro Road, Dar es Salaam	Retailer of jute bags, plows, spares	
Swanlinks International Ltd. Muhonda X Likoma Streets, Dar, 2183688	Exporters of cashews, coffee, seafood, sea cucumbers and pulses	
Synergeta Agro Service Dar es Salaam	Consulting services	
Tabeco International Ltd Samora Ave, Dar, 2119179	Exporter of herbs and essential oils	
Tan Veterina Kariakoo, Dar, 2185177	Veterinary products	
Tanzania Spices Ltd Iringa	Buyer and exporter of paprika	\$900,000 (est) 634 outgrowers and 20 large farmers
Tomatho Holding Ltd Kibaha, 023 2402115	Producer of chicks	
Tradeco Soap Industries Makaburini Industrial Area, Dar, 2862424	Manufacturer of soap Taifa, Sura and Luv soap	
Trio Hardware Uhuru Road, Arusha, 027 8705	Retailer of seeds, tools and other inputs	
Tropical Commodites	Exporter of cashews	

Small companies (Turnover of less than \$1 million)	Activities and products	Indication of size
Dar es Salaam, 022 25957		
Tukuyu Packing Company Ltd. Saza Road, Changombe, 2862568	Buyer and packer of tea	
Twasigono Enterprises Livingstone X Somali Street, Dar es Salaam, 022 2184236	Importers and wholesalers of fertilizer	
Ubungo Spinning Mill	Manufacturer of yarn	600 tons in 2001
Uniafro Ltd. Dar es Salaam, 022 118681	Exporter of cashews	
Union Service Stores Rindi Lane, Moshi, 027 2750264	Retailer of farm implements and inputs	
Zanz-Germ Zanzibar, Tanga, Mbeya and Kigoma	Exporter of organic chilies, cardamom, cinnamon, pepper, ginger, turmeric, lemon grass and lemon and orange peels	\$200,000, with 99% exported

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Annex 5: Summary of on-going bi-lateral and multi-lateral programs in agriculture, natural resource management and rural development

Donor and partners	Program	Activities	Duration	Total budget	Estimated annual budget in \$
African Development Bank (ADB) FAO	Special program for food security	Iringa, Tanga and Morogoro Regions. Rehabilitation of irrigation structures, crop diversification	2000 to 2004	1.1 million UA 1 UA = 0.88867088 grams of gold	\$3.4 million
ADB	Small entrepreneurs Loan Facility (SELF)	Improving access to micro-finance in rural area through savings and credit programs	1999 to 2004	8.9 million UA with 8 million from ADB	\$21.9 million
Belgian Development Cooperation Belgian Technical Cooperation	Development of the Kagera Region	Banana improvement through tissue culture and cash crop production	On-going since 1994	Annual budget 1.4 million Euros	\$1.6 million
Canadian International Development Agency (CIDA)	Total bilateral AID Total multi-lateral AID		2002 to 2003	\$15.9 million \$10.5 million Canadian	
CIDA	Rural Enterprise Training	Agricultural and micro-enterprise development	On-going	\$10 million Canadian per year	\$6.6 million
CIDA	Agricultural Institute in Morogoro	Raise sustainable agriculture production through technical innovation	On-going		
CIDA	Nzega Community Development	Agricultural activities to improve production and incomes	On-going		
CIDA	Hanang Participatory Fund	Empowers local community to provide development	1999 to 2003		
DANIDA	Agriculture Sector Support Program	Institutional support ASSP programs are now entering phase two	1997 to 2002	\$10.5 million total funding	
DANIDA IFAD, JICA	Small-holder irrigation improvement (under ASSP)	Increase agricultural productivity through participatory irrigation	1997 to 2002	\$3.7 million total funding	\$744,000

Donor and partners	Program	Activities	Duration	Total budget	Estimated annual budget in \$
		management			
DANIDA	Rock phosphate (under ASSP)	Research on utilization of Tanzanian rock phosphate for crop production	1997 to 2002	\$858,000 total funding	\$171,600
DANIDA	Seed Sector Support Program (under ASSP)	Revitalization of GoT seed farms. Training farmers in seed production techniques. Improved access through community seed production of Quality Declared Seed in 74 villages	1997 to 2002	\$5.6 million total funding	\$1.9 million
DANIDA	Hifadhi ya Mazingira (HIMA)	Operates in Iringa Region soil conservation Tree planting, land use planning, income generation	1997 to 2002	\$13.3 million total finding	\$2.7 million
DANIDA	Business Sector Support Program (BSSP)	Support private sector through support to Vocational Education and Training Authority, FEDHA Investment Fund, CRDB Micro-finance, Commercial Court and CTI	1998 to 2002 Second phase now starting	150 million DK total funding	\$5.8 million
German Development Service (DED)	Chunya Small-scale Dairy Development Project	Technical assistance to increase milk production through new breeds and organize dairy farmers	On-going		\$150,000 (est.)
DED	Bagamoyo Livestock Support	Provide technical assistance at district level	On-going		\$150,000 (est.)
DED	Soil and Water Conservation Project (SWCOP)	Provide TA for sustainable agriculture, tree planting and erosion control	On-going		\$150,000 (est.)
DED	District Natural Resources Management Project	Provide technical assistance at district level	On-going		\$150,000 (est.)

Donor and partners	Program	Activities	Duration	Total budget	Estimated annual budget in \$
DED	Horticultural Production and Marketing	Provide technical assistance on fruit and vegetable marketing at district level	On-going		\$150,000 (est.)
DFID	Support to Poverty Reduction Budget	To support implementation of the PRSP	2001 to 2004	250,000 pounds total funding	\$140,000
DFID TRIT	Support to the Tea Research Institute of Tanzania	Establish industry funded research	1999 to 2004		
DFID DANIDA IWMI (Sri Lanka)	Raising irrigation productivity and releasing water for inter-sectoral needs	Water management for sustainable agriculture	2001 to 2004	427,046 pounds	\$239,140
DFID IITA-ESARC Maruku Agricultural Research Station	Working with farmers to control sweet potato virus diseases in East Africa	Increase returns from sweet potato by decreasing sweet potato virus disease and other pests	2002 to 2005	245,183 pounds total funding	\$137,300
DFID CAB International Bio-science	Epidemiology and variability of Gibberella xylarioides, the coffee wilt pathogen	Reduce coffee wilt diseases and stabilize productivity	2002 to 2004	110,059 pounds total funding	\$92,450
DFID Kilimanjaro Agricultural Training Institute SUA	Development and promotion of wild rice management strategies for the lowlands of the southern Tanzania	Introduction of West African rice production strategies	2002 to 2005	75,898 pounds total funding	\$42,500
DFID	Integrated pest and soil management to combat Striga, stem borers and declining soil fertility in the Lake Victoria Basin	Develop and disseminate integrated soil fertility management against problems in maize production	2002 to 2005	222,250 pounds total funding	\$124,450
DFID NRI, SUA,	Increasing food security and improving	To develop strategies to reduce the effect of pests	2002 to 2005	148,042 pounds total funding	\$82,900

Donor and partners	Program	Activities	Duration	Total budget	Estimated annual budget in \$
Ilonga Agricultural Research Institute	livelihoods through the promotion of integrated pest and soil management in lowland maize systems	on poor peoples crops			
DFID NRI, Uyole Agricultural Research Station, INANDES Foundation, SUA	Improving access to and management of disease resistant maize cultivars in the Southern Highlands	Identify varieties resistant to Maize Streak virus, breed resistant seed	2002 to 2005	220,742 pounds total funding	\$123,600
DFID NRI, Naliendele Research Station, Sugar Cane Research Institute, SARRNET	Promotion of control measures for Cassava Brown Streak Virus	Cross border program with Mozambique to research CBSV and CMD to develop control methods	2003 to 2005	211,047 pounds total funding	\$177,280
DFID	Reinforcement of pastoral civil society in East Africa	To build the capacity of pastoral civil society groups to carry out local awareness level raising on policy issues	2002 to 2007	235,787 pounds total funding	\$79,220
DFID Imani Development International	Tanzania Trade and Poverty Program (TTPP)	To enhance capacity in appropriate Tanzanian institutions to formulate, negotiate and implement trade reform strategies that are inclusive and pro-poor	2002 to 2005	927,685 pounds total funding	\$519,500
DFID International Potato Center SARRNET, NRI	Promotion of sustainable sweet potato production through farmers' field schools	Covers Tanzania, Uganda, and Kenya. Increase returns from sweet potato enterprises through production and post-harvest management	2002 to 2005	74,883 pounds total funding	\$41,900
DFID	Promotion of and Support to	Improved strategies for the integrated	2002 to 2005	73,280 pounds total funding	\$41,000

Donor and partners	Program	Activities	Duration	Total budget	Estimated annual budget in \$
SUA	use the Parched Thirst Model in East Africa	management of rain water, that benefit the poor in semi arid areas			
DFID SUA	Improving the management of common pool resources (CPR) in rainwater harvesting	Strategies to improve livelihoods of specific groups of the poor through integrated management of CPR	2002 to 2005	212,242 pounds total funding	\$118,850
DFID NRI, Plant Health Services Division, Diatom research and Consulting	Small-scale farmers utilization of diatomaceous earths during storage	Improve food security of poor households through increased availability and improved quality of foods	2002 to 2005	300,567 pounds total funding	\$168,300
DFID SUA, University of Nottingham, Northern Zone Agricultural Research and Development Institute	Improvement of soil fertility management practices in rainwater harvesting	Improve strategies for integrated management of soil and plant nutrients	2002 to 2005	168,072 pounds total funding	\$94,120
DFID ICRAF	Tree domestication as a livelihood option for small-scale farmers in Africa	Multi-country program. Increase capacity of farmers to market tree products	2002 to 2004	1.1 million pounds total funding	\$924,000
DFID NRI, CIAT, SUA	Sustainable integrated management of white flies	Multi-country program to promote increased knowledge of white fly control methods	2001 to 2004	994,374 pounds total funding	
DFID UNDP	Environment Advisor to Tanzania	Secondment of an environment advisor to UNRP to integrate environment into poverty reduction strategy	2002 to 2005	200,000 pounds total funding	\$112,000
DFID Fairtrade	Empowerment of producers through	Covers Tanzania, Uganda and Ethiopia. Support	2002 to 2003	149,850 pounds total funding	\$251,750

Donor and partners	Program	Activities	Duration	Total budget	Estimated annual budget in \$
Foundation	improved support for stakeholder participation in the governance of Fair Trade labeling	regional inspection services, stakeholder participation in Fair Trade governance			
DFID IIED Hakiardhi Tanzania	Securing land rights in Africa	Covers Tanzania, Uganda and Ethiopia. Study land registration procedures in each country	2002 to 2005	370,572 pounds total funding	\$207,520
DFID	Competition and coordination in cotton market systems	Multi country covering Tanzania, Uganda and Mozambique, Zambia and Zimbabwe Facilitate information sharing on cotton marketing systems	2002 to 2005	344,484 pounds total funding	\$192,900
DFID Center for Tropical Veterinary Medicine, SUA, Muhimbili Research Station	Investigating the impact of brucellosis on public health and livestock health	Develop cost effective strategies for control of brucellosis	2001 to 2004	289,947 pounds total funding	\$162,370
DFID NRI	Message in a bottle, disseminating tsetse control strategies	Multi-country program covering Tanzania, Ethiopia and Zimbabwe. Develop cost-effective ways of treating live-stock with insecticide. Disseminate low-cost control methods	2001 to 2005	260,108 pounds total funding	\$109,240
DFID Ministry of Livestock, SUA, Tropical Veterinary	Research on incidence and causal agents for bovine cerebral theileriosis		2001 to 2003	127,530 pounds total funding	\$71,400

Donor and partners	Program	Activities	Duration	Total budget	Estimated annual budget in \$
Medicine					
DFID NRI, Pest Control Service	Novel strategies for the control of the African armyworm on small-holder cereals	Reduce poverty by increasing cereal production through IMP control of armyworms	2001 to 2004	249,325 pounds total funding	\$139,620
DFID Farm Africa Uyole Agricultural Center	Promotion of IPM strategies for major insect pests of beans	Multi-country program Development and dissemination of IPM strategies for Phaseolus beans	2001 to 2004	173,597 pounds total funding	\$96,240
DFID CIMMYT	Development of aluminum tolerant wheat for acid soils	Multi-country program Plant genes conferring tolerance to acid soils identified and incorporated into wheat	2001 to 2004	160,446 pounds total funding	\$89,850
DFID Concern	Community Livelihood Improvement Project in Lindi rural district (CLIP)	Support development of CBOs in Lindi	2001 to 2006	250,000 pounds total funding	\$84,000
DFID CAB International, Huxley School, GoT Pest Control Service	Identifying the factors causing outbreaks of armyworm as part of improved monitoring and forecasting	Improve deployment of government resources to forecast and combat armyworm	2000 to 2004	286,743 pounds total funding	\$120,400
DFID Concern Worldwide	Local development organization support Masasi District	To enhance the effectiveness of local development organizations	2000 to 2005	246,814 pounds total funding	\$82,900
European Commission	Support to Poverty Reduction Plan	Budget support	Annual	98 million Euros	\$111 million
European Commission	Support to Agricultural Sector Development Program	From Stabex due to losses from coffee, cotton and tea exports	2003 to 2006	18.4 million Euros	\$7 million
European Commission	Support to Tanzania Coffee	From Stabex due to losses from coffee,	2003 to 2006	9 million Euros	\$3.4 million

Donor and partners	Program	Activities	Duration	Total budget	Estimated annual budget in \$
	Research Institute	cotton and tea exports. To be used to promote local processing with improved quality			
European Commission	Support for rural road construction	From Stabex due to losses from coffee, cotton and tea exports	2003 to 2006	10 million Euros	\$3.8 million
French Development Agency	Improving market infrastructure in Morogoro	Funding to Tanzania Farmers Groups Network (MVIWATA)	2000 to 2005	\$5,252,972	\$1 million
FINNIDA	Support to Tanzania Forestry Action Plan for research	Support to TAFORI	2000 to 2004	4 million Euros total funding	\$1.1 million
FINNIDA	Support to Sustainable Management of Land and Environment in Zanzibar (SMOLE)	Poverty reduction through environmentally safe economic development Land use management	2002 to 2005	1 million Euros total funding	\$285,000
FINNIDA	Support to the Forestry College	Regional program focusing on curriculum development	2003 to 2005	430,818 Euro total funding	\$245,560
FINNIDA	East Usambara Conservation area biodiversity surveys	Longstanding FINNIDA program now in last phase	2001 to 2003	2.6 million Euros total funding	\$1.5 million
FINNIDA	Rural Integrated Project Support Program (RIPS)	Operates in Mtara and Lindi. Promotion of small enterprises, participatory approach and NGO capacity building.	1999 to 2005	11.6 million Euro total funding	\$2.2 million
FAO	Technical Cooperation	Near infra-red spectrophotometry for Livestock early warning system	2001 to 2003	\$185,000	\$92,500
FAO	Technical Cooperation	Emergency assistance for red locust control	2002 to 2003	\$396,694	\$396,694
FAO	Technical Cooperation	Private sector delivery of east-coast fever vaccine	2002 to 2003	\$241,000	\$241,000
FAO	Technical	Strengthening of	2002 to	\$223,000	\$111,500

Donor and partners	Program	Activities	Duration	Total budget	Estimated annual budget in \$
	Cooperation	national food control system and national codex organization	2004		
FAO	Technical Cooperation	Pre-implementation assessment for the 2003 agricultural surveys	2003 to 2003	\$24,000	\$24,000
FAO	Technical Cooperation	Support to the preparation of the national food security policy	2002 to 2003	\$61,000	\$61,000
FAO	Trust fund	Special program for food security	2001 to 2004	\$976,910	\$325,640
FAO	Trust fund	Support to SPFS extension for vegetable garden irrigation with pedal pumps	2001 to 2003	\$387,303	\$193,650
GTZ and KfW	Forest Policy Implementation Support	Support to Forestry and Beekeeping Division and TAFORI and other institutions	1995 to 2004	10.4 million Euros	\$1.3 million
GTZ	District Natural Resources Management Project	Follow up to the Handeni Integrated Agroforestry Project (HIAP), Soil Erosion Control and Agroforestry Project (SECAP) and Tanzania Forestry Action Plan programs	2002 to 2005	2.04 million Euros	\$775,200
GTZ TANAPA	Selous Conservation Program	Community-based wildlife management	1998 to 2003	14.2 million Euros	\$3.2 million
GTZ TANAPA	Saandani Conservation and Development Program	Community-based wildlife management	1996 to 2004	1.6 million Euros	\$228,000
GTZ TANAPA	Katavi Rukwa Conservation and Development Program	Community-based wildlife management	1998 to 2006	1.8 million Euros	\$256,500
Irish Development Aid	Support to Agricultural Sector Development Plan			Total spending 20 million Euros	\$22.8 million

Donor and partners	Program	Activities	Duration	Total budget	Estimated annual budget in \$
Irish Development Aid	Agricultural Extension				
Irish Development Aid	Coastal zone protection				
IFAD Co-funding from Ireland Aid (\$1.1 million) and the African Development Fund (\$14.6 million)	Agricultural Marketing Systems Development Programme	Strengthen producer organizations, assist Government to rationalize policy, taxation and regulation regarding marketing and improve market infrastructure through rural road rehabilitation and post-harvest facilities	2001 to 2008	\$42.3 million total funding with a loan of \$16.3 million from IFAD	\$6 million
IFAD Co-funding from Switzerland (\$2.8 million) and OPEC Fund \$2.2 million)	Rural Financial Services Programme	Rationalize and strengthen grass roots micro-finance institutions through training policy reform and links to capital	2000 to 2009	\$23.8 million total funding with a loan of \$16.3 million from IFAD	\$2.6 million
IFAD Co-funding from Irish Aid (\$848,000) and WFP (\$3.6 million)	Participatory Irrigation Development Programme	Increase water availability through improve control structures, raise productivity through extension, improve capacity to operate irrigation schemes and construct rural access roads	1999 to 2006	\$25.3 million total funding with a loan a \$17.1 million from IFAD	\$3.6 million
IFAD	Kagera Agricultural and Environmental Management Project (KAEMP)	Land use planning and soil conservation	1996 to 2003	\$24.1 million total funding with a loan of \$10.3 million from IFAD	\$3.4 million
JICA	Project for Mwega small-holder irrigation in Morogoro Region	Construction of irrigation schemes in Malolo and Kilosa coverings 580 hectares	2001 to 2003	727 million yen total project funding	\$3.3 million
JICA	Increased food production	Aid to increase food production under Kennedy Round II	2000 to 2009	700 million yen	\$709,000

Donor and partners	Program	Activities	Duration	Total budget	Estimated annual budget in \$
		(sales of fertilizer and equipment)			
JICA	Food aid		2001	500 million yen	\$4.6 million
JICA	Various studies undertaken in 2002	<ul style="list-style-type: none"> • Small-scale horticulture in the Coast Region • Fisheries master plan • Study on Ag Sector Support Program • Participatory poverty assessment • Study on national irrigation plan 	2002		
Netherlands DGIS	Poverty Reduction budget support	Budget support in priority sectors, including education, health, water, and private sector development	On-going	15,088,000 Euro	\$17.2 million
Netherlands DGIS	Private sector Development support in the Lake Zone	Private sector advocacy in the Lake Zone – Follow-on to TARP program	On-going	363,024 Euro annual budget	\$413,840
Netherlands DGIS	FAIDA SEP	Support to local NGO FAIDA SEP to improve market linkages and business development services	On-going	363,024 Euro annual budget	\$413,480
Netherlands DGIS	DBSPSS Jiendeze	Support to Tanzania Chamber of Industry and Commerce at District level	On-going	223,260 Euro annual budget	\$254,500
Netherlands DGIS	Financial Sector Development program support	Support to increase access to financial services	On-going	68,067 Euro annual budget	\$77,590
Netherlands DGIS	Small-holder Dairy support Program	Support to the small-holder dairy sector to become sustainable private sector	On-going	1,361,341 Euro annual budget	\$1.55 million
Netherlands DGIS	Privatization of RNE project assets (PSRC)	Assist PSRC in the privatization of the Kikulula Farm	On-going	39,479 Euro annual budget	\$45,000

Donor and partners	Program	Activities	Duration	Total budget	Estimated annual budget in \$
Netherlands DGIS KIT Rural Change Wageningen University	TARP II Farming systems Research in the Lake Zone	Being phased out. Worked to improve production of beans, sorghum, and maize by using new varieties and farming systems	2000 to 2003		
NORAD	Soil conservation and Afforestation in Shinyanga (HASHI)	Environmental conservation through tree planting. Promotion of indigenous practices for land reclamation	Being phased out		
NORAD	Soil conservation and Afforestation in Iringa (HIMA)	Environmental conservation through tree planting. Promotion of indigenous practices for land reclamation	Being phased out		
NORAD	Promotion of Rural Initiatives and Development Enterprises (PRIDE)	Microfinance network with 22 branches and 50,000 clients	On-going since 1993	\$572,000, or which \$66,000 is covered through income	\$501,000
NORAD Cooperative College	MEMCOOP	Retraining members of primary societies and cooperative unions	1995 – 2003	\$432,869 annual budget	\$432,869
NORAD	Research collaboration under TARP II	Agricultural research on gender, biodiversity and desertification	2000 to 2004	\$5,683,949 total funding	\$1.4 million
NORAD SUA	Income and Food Security Project	Evaluating and improving sweet potato and banana germ plasm. Tillage practices and organic mulch to improve rice production.	2001 to 2005	\$10 million Norwegian Kroner	\$348,200
Swedish International Development Assistance (SIDA)	Poverty Reduction Budget Support			120 million Swedish Kroner	\$15.3 million
SIDA	Hifadhi Ardhi Dodoma (HADO)	Restoring vegetation and enhancing awareness in the			

Donor and partners	Program	Activities	Duration	Total budget	Estimated annual budget in \$
		semi-arid districts of Dodoma and Kondo			
SIDA	Phase two of Land Management Program (LAMP)	Operates in Babati, Kiteto, Simanjiro and Singida Community forestry extension Natural forest management	2001 - 2004	Total funding 35 million SK	\$1.1 million
SIDA	Soil Conservation and Agro-forestry Development Program (SCAPA)	Operates in two districts in Arusha			
SIDA	Support to the Tanzania Bureau of Standards	Technical assistance, training and equipment	2000-2003	Total funding 3 million SK	\$127,300
SIDA	Support to TCCIA	Opening district-level chambers of commerce	2001-2004	Total funding 18 million SK	\$762,000
UNDP				Total funding \$20 million	
World Bank GEF	Eastern Arc Forests Conservation and Management Project	Institutional reforms to promote bio-diversity, establishment of an endowment fund, development of management strategy and forest conservation through GoT and NGOs	Started 2003 to 2008	\$45 million	\$9 million
World Bank	Participatory Agricultural Development and Empowerment Project	Funding of agricultural development projects by matching grants to communities and farmers' groups through village councils. A second component focuses on capacity building and institutional strengthening at national, district and local level	2003 to 2008	\$70 million	\$14 million
World Bank	Regional trade	Export development	2001 to	\$45 million	\$4.5 million

Donor and partners	Program	Activities	Duration	Total budget	Estimated annual budget in \$
	facilitation project	and competitiveness. Implemented by African Trade insurance Agency.	2011		
World Bank	Rural and micro financial services project	Formulation of national micro-finance policy. Design of legal, regulatory and supervisory frameworks. Institutional strengthening for the Bank of Tanzania	1999 to 2004	\$2 million	\$400,000
World Bank	Agricultural research project	Strengthen agricultural research system to provide demand driven, client oriented research	1998 to 2004	\$46.1 million	\$7.7 million

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